

Per

# SOUTHERN TEXTILE BULLETIN

VOL. XXIII.

CHARLOTTE, N. C., THURSDAY, JUNE 29, 1922.

NUMBER 18

No more convincing evidence of TALLOFATS superiority could be desired than the fact that so many mills of prominence have chosen TALLOFATS as the sizing which gives them the best results.



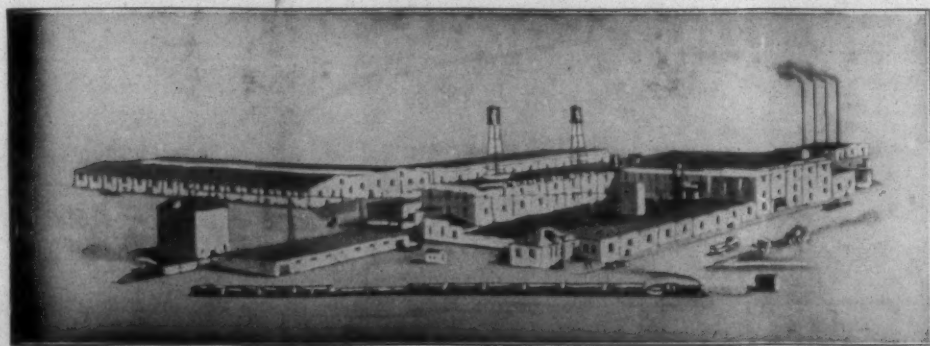
Charles R. Allen

Manufacturer  
Distributor

Charleston, S. C.



## VICTOR MILL STARCH – The Weaver's Friend



It boils thin, penetrates the warps and carries the weight into cloth. It means good running work, satisfied help and one hundred per cent production.

We are in a position now to offer prompt shipments.

### THE KEEVER STARCH COMPANY

COLUMBUS, OHIO

Southern Representatives:

James H. Maxwell, Greenville, S. C.

Claud B. Her, Greenville, S. C.

D. H. Wallace, Greenville, S. C.



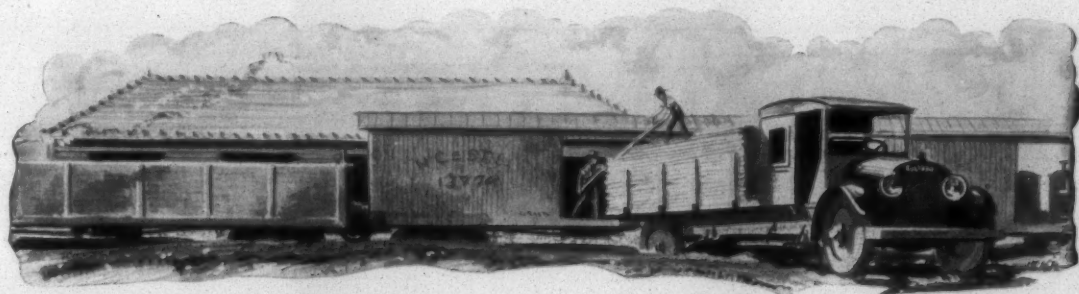
# Charlotte Manufacturing Co.

Manufacturers

Card Clothing and Reeds

CHARLOTTE, N. C.

The Only Shop Manufacturing  
Card Clothing In The South



## Cyclone

"14 miles to the gallon of gas and 200 miles to the quart of oil."

"You can't stall it."

"The most efficient truck we have ever had, and the most economical to operate."

The above are quotations from letters from Cyclone owners. The Cyclone 1 1/2-ton truck, especially designed to meet Southern road and hauling conditions, has made an excellent reputation for efficiency and economy of operation wherever used. Write for specifications and records it has made.

Cyclone Motors Corporation  
Greenville, South Carolina

*The Southern Truck for Southern Traffic*



# SOUTHERN TEXTILE BULLETIN

PUBLISHED EVERY THURSDAY BY CLARK PUBLISHING COMPANY, 39-41 S. CHURCH STREET, CHARLOTTE, N. C. SUBSCRIPTION \$2.00 PER YEAR IN ADVANCE. ENTERED AS SECOND CLASS MAIL MATTER MARCH 2, 1911, AT POSTOFFICE, CHARLOTTE, N. C., UNDER ACT OF CONGRESS, MAR. 3, 1879.

VOL. XXIII.

CHARLOTTE, N. C., THURSDAY, JUNE 29, 1922.

NUMBER 18

## Defects In Dyed Yarns

(Paper read by Mr. Goodall Before Ashton-Under-Lyne Mill Managers, Association, of England.)

Before dealing with the subject proper, I should first like to contrast methods of production of colored goods (i. e., cloth made from dyed and bleached yarns in distinction from cloth made from grey yarns and afterwards dyed, bleached and printed) in this country and on the Continent.

In this country's case the weft and warp yarns are sent to commission dyers and bleachers in the greatest number of cases, and the results delivered to the manufacturer for preparation and weaving, the grey yarn never having been seen in the bulk of the ultimate user.

On the Continent practically every manufacturer of importance does his own dyeing and bleaching in the works where the product is to be used, and minor defects which in our case would pass without being notified to the individuals concerned, are dealt with and remedied as they occur.

Both systems have advantages, the large dye works in this country in lower production costs, and every manufacturer being his own dyer tending towards the ultimate improvement of the product through the close collaboration of the individuals in charge of successive processes.

I don't wish to give you as my own idea that our present unfavorable position when in competition with Continental is due to any advantage derived from their methods as compared to ours, such position being probably due to entirely different causes, but I do feel that unless closer relations are established between our spinners, dyers and manufacturers we are not going to get the best possible results as quickly as we ought to, and we may eventually find ourselves unfavorably placed in competition with other countries, who by the different methods used tend to get minor defects remedied at once.

Avoidable defects, such as dirt and oil stains in the yarns, extra dressing charges in the preparation of warps for the loom (due to broken and endy warps), undyed cops (due to cops being wound too tight), can all be prevented, and if prevented will lower manufacturing costs.

I purpose dealing first with the

general defects found in yarns delivered to the dyer, and later with the particular defects of cops, cheese, beams, ball and cheese warps, and bundle yarns.

### General Defects in Yarns.

The most costly general defects in yarns is probably that of oil and dirt stains, and as it is one that has doubtless engaged the attention of most of you, it is one that we do not need to deal with at length this evening.

Much work has been done, and much remains to be done, in the production of a satisfactory stainless oil, or as an alternative an easily saponifiable or emulsifiable lubricant for spinning machinery.

In cases where a particular yarn is known to be prone to this defect, special and costly preliminary treatments have to be undertaken. In one case which fairly recently came to my notice, a manufacturer had cause to complain that he was getting an excessive percentage of unmarketable cloth through stains, which, on laboratory testing, proved to be mineral oil.

It was, of course, suggested that the dyer (who, as you know, is the fool of the family—the textile family) was responsible for these, and if in a number of cases they had not occurred on only one thread of a two-fold yarn he would doubtless have had to pay the piper.

However, in this case the manufacturer was convinced, and then asked what steps could be taken to eliminate the possibility of the stained yarn getting through into his cloth?

The dyeworks laboratory devised a preliminary treatment of the yarn, which has effectually prevented, or rather removed, the defect, and the result is now a cloth quite free from defect, but it is wrong in principle; in the first place, the stains should not be there to require removal.

The second general defect in yarn is one that I, as a dyer, am hardly competent to deal with—it is that of different grey yarn, due, I understand, to irregular and altered mixings of various grades of cotton.

In some cases the differences are not optically visible in the grey state, and only manifest themselves on dyeing.

I believe that no spinner has ever been known to acknowledge that his yarn is made from any mixture of cottons; but whatever the cause in

alterations in color of yarn and dyeing properties, it is one that should be given the very closest attention by any spinner who caters for the mercerized and fancy colored trades.

The process of mercerizing greatly accentuates the difference in the grey yarn, as well as increasing the difference in color absorption, with the result in mercerising hank yarns that one portion of the hank dyes up one color and another portion dyes up several shades darker or lighter, as the case may be.

Owing to the peculiar structure of cotton knitted fabrics, which are largely made from mercerised yarns, one end of yarn may cover a very large proportion of the visible surface of the fabric, and consequently any slight variations in shade lead to stripy and unmarketable fabric.

Those of you who are conversant with knitting trade of the Midlands will know that owing to the seasonal alteration of shades the fabric is largely made and kept in stock in the mercerised grey state, and defects due to the differences in color absorption only manifest themselves when this grey fabric is dyed up.

The fabric dyers' explanation of the cause is bad mercerising.

In the early days of the use of mercerised yarns in the knitting trade all such defects were put down to "bad gassing," and it was not until ungassed yarns were used in quantity, and the same fault occurred, that it was found that gassing could not be held solely responsible.

The details of a coloring experiment which I made some little time ago may be of interest here.

I took samples of several grades of cotton—Peruvian, American, Indian, Egyptian and Sea Island, and dyed equal weights of each up in the same dye bath, with very striking differences in depth of shade, ranging from about 70 units of color absorbed in the lightest to 100 in the darkest (ascertained by matching up to percentage dyeing).

This is mentioned to show that different grades of cotton dye up different shades under the same dye bath condition.

Bleachers frequently complain that certain spinners' yarns are difficult to bleach to a good white, and when cases come to be investigated it is frequently found that the yarns complained of either contain certain dark-colored grades of cotton or a

high percentage of dead cotton fibres.

These dead fibres are a source of considerable trouble to the dyer and bleacher, as many colors will hardly dye them at all; and it is quite impossible to bleach yarns containing them to a perfect white in the ordinary bleaching process. However, this subject has been dealt with frequently, and you are certainly aware of the many troubles caused by it, so we need not dwell upon it.

Irregular twist is quite a frequent trouble in dyed yarns, as beside the cloth getting a poor appearance, due to thin and thick places, certain colors, notably those which largely remain on the surface of the yarn, such as indigo, becomes specky looking after the yarns are prepared for the looms, owing to the yarns being kept under tension in certain section of the dyeing and preparation process, and the twist, therefore, tending to become more regular, the extra turns in certain portions being pulled out, and soft places taking up extra twists.

Unevenly gassed yarns are a great source of trouble to the merceriser and dyer.

The original discovery of the mercerising process was that cotton immersed in certain strong alkaline solutions shrunk considerably, and had a greatly-increased affinity for coloring matters. It was later found that by preventing the shrinkage a lustre was obtained, but the affinity for colors was also reduced.

Now the loose fibres on the surface (which gassing is intended to remove) are not under tension, and consequently after mercerising will take up a much greater amount of color than the main thread, which has been kept under tension, consequently well gassed parts appear lighter than any that have not been thoroughly treated.

So that we can now say that the chief general faults of the yarns delivered to the dyer and bleacher are:

1. Dirt and oil stains.
2. Stripy yarns (whether optically visible or not).
3. Specky (containing dead cotton), with no affinity for certain colors.
4. Irregular gassing yarns.
5. Irregularly spun or doubled yarns.

We will now consider the faults  
(Continued on Page 26)



# Warp Yarn Mercerizing

\*By Lawrence A. Stead.

When John Mercer took out his patent in 1850, for "Improvements in the Preparation of Cotton and Other Fabrous Materials" with a strong caustic soda solution, he laid the foundation for the mercerizing industry, but very little or no importance was attached to Mercer's discovery at the time, and in fact it had no commercial application until thirty years later, when a patent was taken out for crinkled effects upon cloth, which had a very limited field.

The one phase of the process which made the mercerizing possible, i. e., the application of tension, was not discovered until 1890, when H. A. Lowe applied for a patent describing a method for the production of sulter, which is essentially the same as the present-day method. During the following fifteen years, the industry was of slow growth, due to the lack of proper machinery to produce mercerized yarns in quantity. This can be attributed largely to the secrecy with which the manufacturers held their process. In the years following 1905 the industry made remarkable progress by the improvements in the warp mercerizing machines. These machines have been highly perfected, producing seven to eight tons of mercerized yarn a day. The operation is a continuous one instead of being conducted in several stages as formerly.

As the construction of machinery for the preparation of mercerized yarns has been highly developed, the process may be considered more mechanical than chemical.

Mercerizing under tension has become the only application of the process in practice, and the term "Mercerizing" is today known as the production of luster by the application of tension to the cotton while subjecting it to the action of strong caustic soda solutions.

As the knitting trade is the largest consumer of mercerized yarn, the processing of warps for this use is here described.

The warps containing 378 ends, known as quiller warps, and balled six thousand yards in length, depending on the size or count of yarn, are placed on a rack supported by a bar passing through the hole in the shell. The number of warps constituting a run on the machine depends almost entirely on the size of the yarn, the object being to control the load so that the same weight of yarn is passing through the machine. This tends to greater uniformity and permits of better control of chemicals. The warps after being set up are run in nearly as straight a line as is possible over brass rails properly guided by pins to a binding machine.

The warps now passing singly enter the binding machine at the bot-

tom, passing beneath a wooden roller, which runs the full width of the binding apparatus. There are two such rollers running parallel to each other, the reason for which is to permit the warps to pass in a vertical manner through the tubes of the machine. The size of the machine will largely depend upon the local condition, although it has been found when possible to have an increased number of tubes, and to reduce the number of warps passing through the individual tubes, which of course facilitates the subsequent splitting operations, e. g., it is far better, all things being equal, to run forty-eight warps through the binding machine having sixteen tubes, three warps to each tube, than it would be to run the same number of warps, six warps to a tube, through a binding machine having but eight tubes. The warps pass through these vertical brass tubes in sets, the number of which is determined by the size of the run. As the warps leave the tube they are bound by a cord in a spiral manner, the pitch of which is determined by the speed of the machine. It has been found that a pitch of 10 to 12 inches answers quite satisfactorily. The object of this spiral binding is to prevent any broken ends from falling away from the main body of the warps, which if allowed to do so, will cause serious damage to the yarn while passing through the mercerizing machine, producing what in practice is known as roller laps. This condition is brought by the free ends attaching themselves to the roller and accumulating as the warps pass through the machine. This becomes so aggravated at times as to cause the breaking of a number of warps and possibly tearing the roller away from its bearings.

The warps pass over rollers situated directly above the binding machine. Eight sets of warps pass over one roller, while the remaining eight pass over another. These rollers should be sufficiently high and located at such a distance apart from the entering end of the mercerizing machine, as to reduce the angle of the warps to a minimum. These machines are usually made up of 15-17 compartments, each compartment being a single unit in itself, but firmly fastened to each other. The object of these individual units is that they may be easily replaced at any time. The length of these units will vary according to the use for which they are designed.

The warps, after leaving the binding apparatus pass into the boiling-out compartment, containing a solution of weak caustic soda and Turkey Red Oil, or an equivalent amount of castor oil soap. The solution is brought to the boiling point and this temperature should be maintained as nearly as possible throughout the run. The cotton fiber in its natural state is water-repellant on account of the waxy matter it contains. It is obvious, therefore, that

this preliminary boiling-out process be carried out, as it tends to remove extraneous matter, at the same time softening the waxy matters, thoroughly wetting out the yarn and making the cotton receptive for the caustic soap.

On the delivery of this compartment and all subsequent compartments, are heavy rubber squeeze rolls, the object of which is to remove the excess liquor from the yarn previous to entering the succeeding compartments. The warps, after passing through the boiling-out liquor, should be delivered cold to the strong caustic liquor, otherwise the cotton becomes tendered through the formation of cellulose and the luster is somewhat impaired.

The third stage consist in the treatment of caustic soda of 50 degrees Tw., at a temperature not exceeding 60-70 degrees F. In maintaining the proper strength of caustic soda in the mercerizing machines, it is essential to have a storage tank containing caustic liquor of about 70-80 degrees Tw., which flows by gravity to a large cistern, which is submerged in the floor. From here the liquor is pumped to the machines, and by means of overflows the liquor returns by gravity to the cistern to be again strengthened by the heavy liquor from the storage tank. Through this means of circulation the yarn to be mercerized is in constant contact with the liquor of the proper strength and temperature.

While the cotton is in contact with the caustic soda, chemical action effects a chemical transformation in the molecular structure of the fiber by the formation of a chemical compound between the cellulose and the alkaline hydrate in the molecular ratio  $C_{12}H_{20}O_{10}$ . A second change is also observed by the fibers swelling similar to the process of ripening.

The general assumption has been that in order to produce luster, shrinking and swelling of the fibers are necessary. Hubner and Pope observed that the natural twist of the fiber does not always run in the same direction, but is generally twisted in parts to the right and in parts to the left. A number of these changes in the direction of the twist being perceptible throughout the length of a single fiber. Considerable importance is attached to this change of twist in the production of luster during mercerization.

It is a known fact that 40 degrees Tw. is the lowest concentration of caustic soda at which effective mercerization for practical purposes can be carried out, and if this be true, it necessarily follows that the production of luster is connected with the action of caustic soda of definite concentrations.

Investigation of the subject has confirmed this view that untwisting of the fiber precedes the swelling up to a caustic concentration of 40 degrees Tw., while the reverse is the case at concentration above 40 degrees Tw. As there are certain

chemicals which cause intense swelling but no untwisting of the fiber and consequently no luster, it can be stated that in order to obtain maximum luster the mercerizing agent must produce in a high degree swelling, untwisting and shrinking of the fibers.

The yarn is in contact with the mercerizing caustic about two minutes. This is sufficiently long enough to insure mercerization. Experimental data of Edmund Knecht, showing the influence of time on the mercerizing action of caustic soda of 50 degrees Tw.:

Time	Shrinkage	Dyestuff taken up
5 Seconds	.....15.7%	.....3.24%
10 "	.....17.4%	.....3.52%
20 "	.....25.0%	.....3.80%
40 "	.....25.0%	.....3.89%
60 "	.....25.0%	.....3.91%
180 "	.....27.4%	.....4.10%

Within the limits of actual working (say 40 to 180 seconds) there is not very much difference in the degree of mercerization, at all events, as far as the dyeing capacity is concerned.

The next step in the process is the removal of the caustic soda from the yarn, which is done in four washing compartments following the soda treatment. The washing is conducted on the counter-current principle. The wash water is heated to 120 degrees F., and flows in an opposite direction to the travel of the yarn. By this method the yarn is constantly coming in contact with water containing less amount of caustic soda. The wash water is controlled so that an 8 degree Tw. caustic is constantly overflowing to the pumps, which discharge the liquor to storage tanks in the recovery plant.

The mercerizing action actually takes place in the removal of the caustic soda by water, while the warp yarn is held under tension by means of the weighted squeeze rolls on each compartment. The compound formed between the alkali and the cellulose  $C_{14}H_{20}O_{10} : 2NaOH$  is decomposed, the cellulose reappearing as the hydrate  $C_{12}H_{20}O_{10} : H_2O$ .

In order to be assured of the complete removal of the caustic soda, the yarn is passed through a 3 per cent. solution of sulphuric acid at normal temperature, care being exercised that the warps do not enter the acid at an elevated temperature, and to guard against this condition the last caustic wash should be cold. The strength of the acid should be maintained within very narrow limits, and frequent titration tests should be made to determine its strength. The acid is removed from the yarn by thoroughly washing with cold water. Too much stress cannot be laid upon the complete removal of the acid, since the slightest trace remaining will become concentrated in the subsequent drying operation and cause tendering. In addition to this, the faintest trace of acid causes reversion of the

\*Paper read at Alumni meeting, Philadelphia Textile School.



cellulose hydrate to cellulose and produces an uneven appearance closely examined the parts dyed when the yarn is dyed. In fact when lighter in shade have the appearance of unmercerized yarn.

The final treatment on the machine is the softening process, the yarn passing through a weak solution of Turkey Red Oil, or some other oil used for this purpose.

The warps on leaving the machine pass directly to a series of drying cylinders, the number of which depends entirely on the weight of yarn to be dried and the speed at which the operation is conducted. On leaving the drying cylinders the warps are plaited or coiled into boxes, after which the binder thread is removed in a separate operation and the individual warps of 378 ends are split out, in which condition they are delivered to the winding department.

The caustic wash liquors from the machine are evaporated in a multiple effect evaporating system to a concentration of about 80 degrees Tw., and again reused for mercerization. In a well-controlled plant, 85 per cent of the caustic soda can be recovered.

In order to obtain the best luster only combed yarns should be used, as the fibers lie parallel. The mercerizing process tends to shorten every individual fiber and this shortening is resisted by tension applied in a direction parallel to the axis of the thread. Hence, the greater the angle a thread makes with that axis, the less is the effect

of the tension, and if any portion of the fiber is at right angles to the axis, it is not affected by the tension at all. A simple warp thread, therefore, can only receive a partial luster from mercerization, and the greater the twist the less the luster. Slightly twisted threads must give the best luster, although there is a limit to this slackness of twist, for if the cohesion of the fibers is less than the contractile force exerted by the caustic, the fibers slip past each other and no luster is produced. Short staple cotton lusters badly, because it must be more tightly twisted.

Singeing or gassing the yarn prior to mercerizing adds considerably to the resultant luster, as the surface of the yarn is improved by the removal of the hairy fibers, which if allowed to remain, shrink up by the action of the caustic, thereby presenting an uneven reflecting surface.

The luster of mercerized yarn is due to surface reflecting, which is brought about by the swelling action of the caustic soda and the untwisting of the fiber while under tension. The fiber thus treated presents the appearance of a straight rod with a surface possessing a smooth appearance. The reflecting surface of mercerized cotton may be compared to the surface of still water, whereas the wrinkles on the surface of unmercerized cotton correspond to the small waves when the water is disturbed, the reflecting surface, becomes dull as the rays of light are scattered in every direction.

### Majorities and the Truth.

(Journal of Commerce.)

Five months after a bitter strike in textile mills began in New England there are many kinds of evidence showing that truth is finally telling and that those who refused to see the truth are now seeking ways in sooth the pride of the majorities they misled.

When the trouble began in Rhode Island some leading church people denounced the mill managers. Very recently they have been holding conferences and are looking to Congress to institute an investigation. Many of the church people who were so ready to condemn the mills at the beginning have since privately admitted their error but have made no public statement that shows their real feeling.

The political interpolators of industrial life in Massachusetts who go to the extent of gradually crushing enterprise in their community having found facts against them are now instituting one more political investigation into the cotton industry. Both of these groups are publicly announcing what they intend to do about demanding hooks and all other sources of information bearing on the industry. They have been manipulating majorities in their communities and have learned that even majorities cannot stand out against truth and facts.

In Paterson, the every day silk manufacturers, who only ask equal conditions with those laid down for corporators elsewhere, are again be-

ing made the subject of comment and investigation by parties who are catering to the majorities that have dominated that great silk center foolishly to the extent of driving many men of enterprise elsewhere. In Chicago the American Federation of Labor passed its usual vote of sympathy with those who seek to butt their heads against facts by remaining idle so long that it will take them five years to catch up with their wage losses.

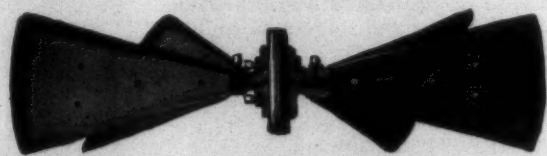
### Pity of It All.

It is a pity that all the political and social worker buncombe about textile strikes this year cannot be pictured in ways that will forever teach the industrious and order loving average mill worker that he knows his own self-interest better than those who assume to be mentors and guides for him. That this will eventually happen is as certain as that the sun will continue to rise and set. In the long run of the years the common people of the world of textile manufacturing will do the right thing. As time goes on the busybodies and the idlers will turn to something else than trying to delude them.

The essential facts of the strikes in New England have been clearly apparent from the beginning to those who are willing to face facts and adjust themselves to them. Through the usual processes of misleading the majority of workers, supplemented by the manipulations of revolutionists or semi-revolutionists of the social order, the so-called intelligence elsewhere, are again be-

(Continued on Page 27)

# Perkins Fans—The Fans for the South



## THE BLADES are Adjustable and Reversible

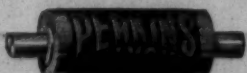
High speeds can be obtained *safely* with the blades adjusted to any angle desired. You can change the *capacity* of a Perkins Fans without changing the *speed*.

All-steel construction—removable babbitt bushings—ball bearing end thrust—positive lubrication—assuring **EFFICIENT** ventilation.

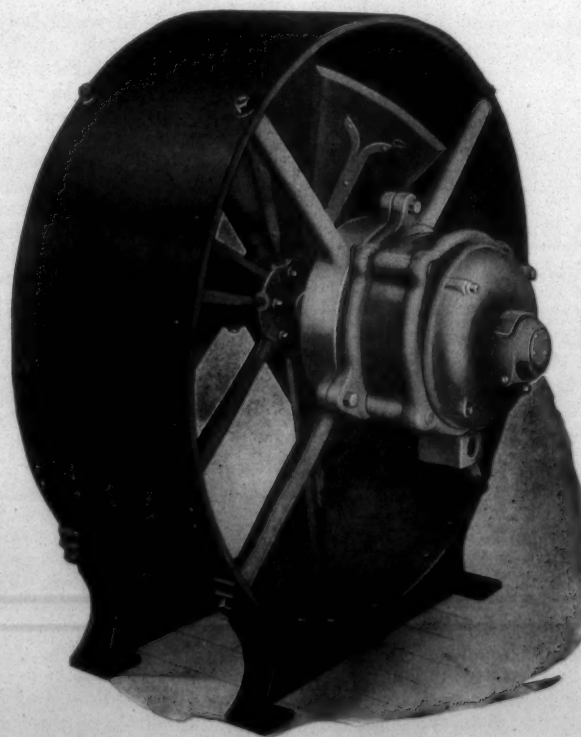
Write for full particulars about any size or style of Perkins Fans. Address Dept. S6

**B. F. PERKINS & SON, Inc. HOLYOKE, MASS.**

Manufacturers of Fans  
Perkins Calender Rolls



The Jumbo Mullen Tester  
The Perkins Tensile Tester



This is **ONE OF THE MANY STYLES** and sizes of Perkins Ventilating and Exhaust Fans.



# Contest Articles That Won Third Prize

Winners of the prizes in the contest, "If I Were Building a Mill," were announced last week. The two articles winning first and second prizes were reprinted in that issue. In this issue we are reprinting the articles written by the four men who tied for third prize. These writers were: W. H. Gibson, Sr., Dennison, Tex.; C. W. Parrot, Hanes, N. C.; W. P. Hazlewood, Anniston, Ala., and E. R. S. Stall, Greenville, S. C. Their articles follow:

## Number Forty-three.

By E. R. Stall, Greenville, S. C.

If I were building a mill, I would wish to make a high class product which would be somewhat of a specialty—not a specialty in the sense of a novelty, but a piece of goods which would be recognized as being just a little better than any other of its kind on the market.

### Product.

If my mill had to be established in some section where there are plants in operation I would study the conditions carefully, taking site, power and labor into special consideration, and this investigation would determine what I would manufacture. I would be inclined, however, to make colored goods and I am of the opinion that an up-to-date plant on a line of 32-inch high grade ginghams would be very profitable.

Given a favorable location with good water, sufficient land, railroad facilities, as well as capital, I would build a mill having 1,000 looms and with approximately 30,000 spindles, complete with dyeing, bleaching, weaving and finishing equipment. Such a plant would produce over 200,000 yards of the construction I have in mind per week and this would be economical to handle with the finishing equipment.

### General Layout.

The general layout would consist of cotton warehouse with opener room and waste room, two story main mill building, dyeing and preparation building and weave shed, as well as boiler plant. I would use electric power and would purchase it if possible, otherwise would provide steam turbine for generating electric power.

The buildings would be located so that the railroad siding would serve the warehouse, cloth room and coal trestle.

### Warehouse and Opening Equipment

The warehouse would be of standard construction with concrete platforms, 50 feet by 100 feet compartments, and in the open room I would provide vertical openers with screen sections and heavy bale breakers with extended feed apron and feed regulators. Thirty or forty bales of cotton would be placed on the floor of the opener room and in feeding the openers an armful would be taken from each bale and in this way an even mix would be secured. After passing through the vertical openers, the stock would fall on a traveling lattice and would be taken to the picker room through

galvanized iron conveyor pipe.

The waste room would be accessible from the main mill and would be provided with bins for picker motes, card strips, card sweeps, card fly, thread waste, clearer waste, spinning sweeps and weaving sweeps and would contain a motor driven baling press.

### Main Mill Building and Machinery.

The main mill building would be of reinforced concrete with good story height and with steel sash. The top floor would contain picking and card room machinery, while in the first floor would be located spinning, spooling and ball warping.

In the picker room I would install 40-inch one-beater breakers, with blade beaters and automatic feeders, these machines being fed by means of automatic distributor, fan and condenser. I would use only two processes of picking and the finishers would be one beater machines with carding beaters. All machines would be equipped with ball bearings for the beaters and fans, beaters being operated at 1,000 r.p.m.

I would provide a waste machine and would place a pair of traveling lap scales in front of the finishers and would leave ample lap storage in the picker room.

In the card room I would provide sufficient cards for a production of around one hundred pounds per day and would also provide an adequate card stripping system. I would use two processes of drawing having 1 3/8-inch metallic rolls operating at 250 r.p.m. and would run only five ends up. I would use 72-spindle slubbers, 11-inch by 5 1/2-inch, 108-spindle intermediate frames, 9-inch by 4 1/2-inch and 176-spindle fly frames, 7-inch by 3 1/2-inch, leaving plenty of room between frames and space at the end of the room for roving storage and trucks.

From the card room the roving would go down an elevator to the spinning room on first floor. The filling frames would be on one side of the room and warp frames on the other side. I would provide 272-spindle, 3-inch gauge filling frames with tape driven spindles. For the warp I would use 240-spindle frames, 3 1/2-inch gauge, tape drive, and would use filling wind for the warp frames, 1 7/8-inch diameter rings and no separators. I would use 1 1/4-inch strict middling cotton and could get 116 turns on my front rolls, using standard twist, and would get excellent running work.

The spoolers would be equipped with tension device to handle the filling wound bobbins and with empty bobbin carriers and tape driven spindles. The ball warpers would be located in this room convenient to the spoolers and on the side next to the dye house.

### Dyeing, Bleaching and Preparation Building and Machinery.

In such a plant as this I am of the opinion that the short chain system of dyeing would be the most economical and I would provide a one-story building with steel sash, high ceiling and ventilated with

monitor and in part of this building would be located the bleaching and dyeing equipment. I would provide dyeing equipment to handle at least 75 per cent of the yarn and would have sufficient dyeing machines so that some machines could be retained for light colors and others for dark shades. I would also install yarn bleaching equipment for taking care of the remaining 25 per cent of yarn.

The yarn for warp, after leaving the dye house, would go to the beamers and drawing-in room and then to the weave shed, while the filling yarn, after being quilled, would be delivered to the weave shed.

### Weaving.

The weave shed would be one story, six divisions wide, having good story height, saw tooth roof, steel sash and tar concrete floor. This building would be connected to the dyeing and preparation building by means of a covered passage way and ample space left for storage of section beams and filling quills.

For this class of work box looms would be necessary, of course, and I would install 4x1 automatic box looms.

### Finishing.

In the weave room, as in the rest of the plant, everything would go through in a direct travel and the cuts of cloth would be delivered to the cloth room and placed in racks. From the racks the cuts would be inspected, brushed and sewed and then singed. I would then run the goods through a finishing range consisting of washing machine, water mangle, starch mangle, tenter frame with winding head and then through a five-roll calender. I would provide cloth winders and folders as well as a hydraulic press.

If city gas were not available I would install a gasoline gas generating outfit for supplying gas for the singeing machine.

### Drives.

I would use individual motors on the pickers, and provide a line of shafting for each two rows of cards, driving each line with motor using silent chain. I would equip each frame of drawing with an individual motor with chain drive and for the roving machinery would use four frame Universal type motors.

I would provide individual motors for the spinning frames, locating the motors at the foot end of the frame, and driving by means of chains. The spoolers would be driven by individual motors and the ball warpers, dye house machinery, quillers and beamers by small group motors. Each loom would be equipped with a one-half horse power motor.

For the cloth room and finishing machinery I would provide individual motors as far as possible and the finishing range would be driven by one varying speed motor.

### Air Conditioning, Heating and Sprinkling.

All of the buildings would, of course, be properly heated and

sprinkled and a modern and efficient humidifier system installed. I would provide an air cleaning system for blowing away lint and for cleaning motors.

### Machine Shop.

I would provide an adequate machine shop, roller covering equipment and supply room.

### Village.

I would give special attention to the village and would build bungalow type houses attractively painted and located, leaving sufficient yard and garden space for each house. I would provide a community building with assembly hall, reading and lounging rooms, shower baths and swimming pool, churches, stores and a modern school building would also be included.

### Organization of Weights and Drafts

As stated, I would use 1 1/16-inch strict middling cotton and would start with a 10 1/2-ounce finisher lap, making 40-grain card sliver, 43-grain sliver on first drawing and 46-grain on the second drawing. I would make .80 hank slubber roving and 2.25 hank intermediate roving and on the fine frames would make 6.00 hank roving for warp and 7.25 hank roving for filling.

Red Eye.

## Number Twenty.

By C. W. Parrot, Hanes, N. C.

A comparison of the mill engineering, building and equipment of thirty to forty years ago with that of the present is very interesting, and it would seem at first thought that the last word has been reached, though each succeeding plan finds something to add for convenience and efficiency, as well as sometimes eliminating that which has proven objectionable.

In this article, which of necessity must be brief, I shall not go minutely into details of the different processes, but will merely state the fundamentals of organization at each process, from which a proper organization, in all of its finer details, may easily be worked out.

After it is finally determined to build a mill, of course one of the first things in order is the selection of a location and the purchase of a building site for the factory and village. Several things contribute to the advantages and disadvantages, viz., labor supply, shipping facilities, support given the enterprise by the community, etc. These factors are fixed in their nature and effect all alike, consequently they need not be discussed here, except to say that with all other things of a business nature being equal, I would select a location with a view of carrying out the plans here authorized.

I shall consider a village layout first, and with the modern mill building, proper and high efficiency of machinery layout, I do not know but that the village offers more in the way of improvement.

The writer has never been able to



understand why most corporations, in planning and building their villages, crowd the tenant houses so close together, and build all exactly alike, giving the village perhaps somewhat more the appearance of a poultry farm than a town of homes.

I would, if the land lay sufficiently level, lay the town out with cross streets or in blocks and build each way. I should put the houses about twice as far apart as is ordinarily done and would certainly not build all of them alike, but would vary their design, colors and sizes, making them small, medium and large. I would number the streets running one way and name them running the opposite way. I have not space to elaborate on this idea, but one can in imagination compare a village of this type with the average and see what I mean.

As for the water system, I would not think of any other than pure water from deep wells piped over the village, with a spigot in every back yard. The writer lives in a village thus supplied where there has not been a case of typhoid fever in the past four years and am told by those who have lived there longer that there has not been a case in the past ten years. The shallow well is passing out and we hail its going. Surface water is not fit for humans to drink.

I would light the village, both streets and houses, and this being done, I would plant fruit trees from one side of the village to the other. If necessary to give all of the fruit that the people could use, I would plant an orchard on one, two or three sides of the town. This, let me say, is not an idealistic dream, but is practical and I should as surely do it as I should build. A village thus built, with anything like a good and well disciplined organization inside, would have the labor turnover about fixed. There would never be a time, I think, when a good desirable family was not waiting for a house in a town like that and the type of people that could be kept there would not contribute much to the agitator. Ample church and school facilities should of course be provided.

Such a village would appear as a town of homes rather than one of mere living quarters. Everyone would have ample "elbow room" and would enjoy the privacy of home in a large measure and have plenty of room for gardens and poultry yards if they so desired. Of course no hog, cow or horse stables could be allowed inside the village.

I wish to say in passing that I do not criticize the money spent and the methods used in welfare work of the various kinds. Perhaps the one we should do and not leave the other undone, but I do say in all candor that the living conditions here outlined would come first and would mean more to the well being and citizenship of the community than all else.

The standard warehouses and facilities as now constructed for handling cotton meet all requirements. Platforms, however, should be of concrete instead of timber, thus

making "trucking" fifty per cent easier.

The main mill building, as planned by the architect to meet the machinery layout, with its standard sprinkler systems and fire protection, is all right. I do not know of any special changes in lighting system that would be of advantage. I would heat with the steam pipe system and convey all waste steam and hot water "back to the boiler."

I would use one of the standard humidifying systems throughout the mill, including the picker room.

For power, I would want the electric drive because of its convenience. The driving power throughout the mill would be in as many units or sections as desired, eliminating long shaft lines and permitting some sections or parts to run or stand as desired. Aside from these and other conveniences, there is nothing better than a good steam plant. I am of open mind regarding individual motor drive, not having had sufficient personal experience to know positively of its merits and faults. I would investigate it thoroughly, however, before building.

I should equip for weaving print cloths of the standard constructions, say, 68x72 and 80x80, requiring No. 29s warp and Nos. 38s to 40s filling. I would lay out organization for these counts and constructions because this is a very desirable and standard piece of goods and is apt to sell at all times and with less fluctuations than specialties.

At opening processes, I would locate the bale breaker with C. O. B. machine, or similar cleaning device in warehouse, having provided space for this purpose, with room to open about two days' supply of cotton. Would use a suction system to convey cotton to picker room and use three processes of pickers, breaker, second or intermediate and finisher. Two processes are of course not better than three. Most mills give the stock entirely too much "beating." A high speed blade beater injures the fibres more or less, whether one, two or three processes are used, and better results can be had by reducing speed of beater or strokes per inch and keeping the three processes. I would not run blade beater more than 700 to 800 r.p.m.

I would make the finished lap to weigh about 12 ounces to the yard, and card sliver 38 grains. In no case would I exceed 40 per yard. This would give draft at card of 130 or thereabout. The longer card draft gives the licker-in more time for combing and cleaning the stock, and as a consequence better, cleaner and more even work will result throughout than if faster speeds and shorter drafts are used. The licker-in does not materially injure the stock and since the card draft is in no sense a drawing process, no injury will result from the longer draft at cards. I would not put through more than 95 to 100 pounds per card in 10 hours. This of course necessitates more cards but that is the best initial investment that can be made. With this layout of cards a finished product can be made that could be excelled only by combers, and then only slightly by use of the

latterd. Very solid concrete floors should, if possible, be provided for the card room, which makes them steady and allows better grinding and setting. For the numbers referred to above, two processes of drawing should be used, with a draft at each of about 5.70; slubbers 4.00; intermediates 5.00; speeders 6.00 and spinning 10.00 for warp. For filling, the drafts would be a little longer throughout.

On the numbers in question, 1 1-16 inch middling cotton is usually used and for that stock the twist in roving should be from 1.10 to 1.25 times the square root of hank, or in other words, no more twist should be put in than enough to keep roving from breaking or stretching at succeeding processes. Perfect skewers should be used.

I prefer metallic rolls on drawing and for frames would install 10x5 slubbers; 9x4½ intermediates and 7x3½ speeders.

For spinning, I would use tape driven spindles for warp; 1½ ring with cast iron holders; Knight traveler clearers; 3½-in. spindle gauge without separators; No. 1 flange ring and would use filling wind. There are two or more tension devices for spoolers that give perfect satisfaction.

For slashing I would want the positive cylinder drive. Several makes of slashers are standard and give the same results. I would install the looms that give the greatest production at minimum cost, consistent with quality of goods. I would use Curtis and Marble cloth room machinery but would inspect by hand on tables made for the purpose.

Builder.

#### Number Eleven.

By W. P. Hazlewood, Anniston, Ala.

The selection of goods or yarns today in which there is a profit is a difficult matter and probably next to impossible, but it is the writer's opinion that any high grade standard article can be marketed at a profit in normal times if quality is strictly adhered to and the business is handled economically and common sense is used in selling. There will occur times like the present, when there will be no profit in any line and the selection therefore should be considered from two standpoints. First, is it a staple commodity, and, second, what are you qualified to make and can you manufacture it good enough and at the same time cheap enough to meet competition?

I have selected for my mill high-grade underwear yarns in the coarser counts from 12s to 16s and have used 10,000 spindles as a basis. With a mill of this size I find from experience that I can give more personal attention to details and that I can market the production personally. Personal and intimate contact with one's customers is of great assistance toward successful operation as well as a great saving in selling cost.

Concrete slab construction with wide window space is by all means preferable on account of its rigidity and light. The additional expense

of construction is more than compensated for by these two points and if machinery is properly laid out at installation there is rarely any necessity for relocation. A competent engineer should be employed, as there are details of construction and installation such as steam heating, sewerage, fire protection and lighting which most mill managers will not be familiar with. Maple flooring is of course necessary. Construction should be of two-story with picking, carding and roving on second floor and spinning, winding and packing on first floor. It might be necessary to reverse this layout, depending on location and loading facilities, but with concrete construction sufficient rigidity is obtained for cards and the operations of handling are continuous from one department to another.

Cotton for this character of yarn should be of average good middling grade and of 1-inch to 1 1-16-inch staple. It should be mixed in warehouse or opening room adjacent to mill and bale breaker with long apron and Creighton opener used. It is desirable to open as many bales at once as possible and mix should be of at least 50 bales. If uncompressed it is not necessary to provide mixing bins, but if compressed they should be installed and mix of cotton allowed to age several days in the bin before using. Two bins are desirable, using from one while cotton is aging in the other. Cotton should be blown or sucked to picker room and dropped back of breaker pickers by the use of condenser. I would install 2 40-in. single beater breaker pickers with 2-blade beaters running at 1,500 r.p.m., 3 40-in. intermediates with 2-blade beaters at 1,450 to 1,500 r.p.m., and 3 40-in. finisher with Kirschner carding beaters at 950 to 1,000 r.p.m. I consider a three-process system best, as clean yarn is more essential than breaking strength. Ball bearings should be used on beater, fan and apron bearings. Individual motor drive is desirable if electric power is available. A roving waste machine should be installed for breaking up roving and spinning white waste and waste fed so as to give uniform mix throughout the day's run.

With an estimated production of 30,000 to 33,000 pounds for 55 hours, I should install, provided I had sufficient capital, 80 40x50-in. Rev. top flat cards with 27-in. doffers. If capital was lacking I would install 40 cards and run them night and day. A production in excess of 80 pounds per card for 10 hours is not advisable if one is striving for the highest grade of underwear yarns.

Cards should be equipped with ball bearings on licker-ins but do not consider them essential for cylinders. Would use No. 100s wire on cylinders and 110s on doffers. Would take standard shop specifications on speeds and equipment throughout. A vacuum stripping system should be installed. With an equipment of 80 cards 4 grinding sets should be used and 4 cards ground daily.

I would install the 2 process system.  
(Continued on Page 10.)



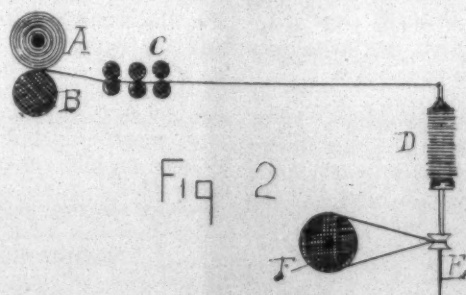
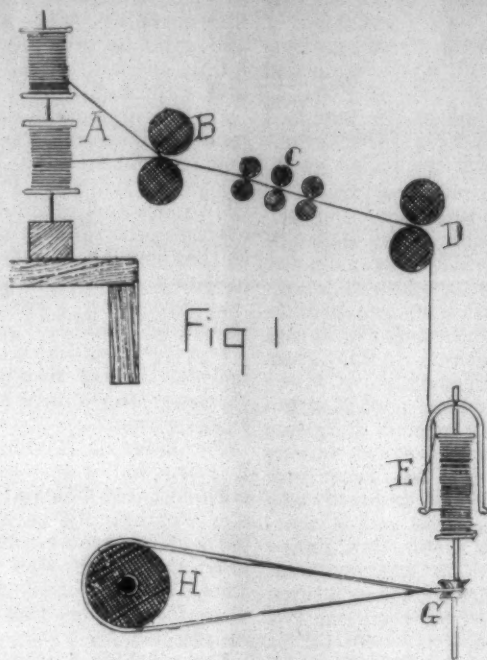
# Overseer to Superintendent

Written exclusively for Southern Textile Bulletin by "Old Fixer", a man who has had long & varied experience in this work

## Spinning.

There are four classes of spinning machines, any one of which a superintendent of a textile mill may meet with. These four classes are the flyer, mule, ring and cap systems of imparting twist to cotton, woolen, worsted, silk, flax, hemp, or other description of yarn. In mills running entirely on cotton yarns or fabrics the ring system only might be used. But in mills manufacturing a range of fabrics from cotton, wool and other fiber, one may find machinery of the four classes of spinning in operation. Taking first for consideration the flyer system of twisting roving into proper form for weaving or knitting textiles, we will see that the mechanical structure of the same is like that shown in the sectional view in Figure 1. The slivers of combed or carded stocks are passed into the draft rollers of the spinning frame from the spools which are set in racks on pegs at A. The strands may be introduced singly or double as in the illustration. The ends pass between the receiving rollers B and thence pass to the draft rollers C. These rollers are equal in diameter, but each set is speeded a little over the first set for the purpose of effecting the required draft to the strands as they pass through. Draft is also obtained in more or less degree by increasing the revolutions of the delivery rolls D to the extent of drawing the slivers still more. The object is to get an even draft of the slivers by elongating them gradually and evenly without disturbing the general alignment of the individual fibers.

In some cases the drafting takes place between the smaller rollers only, and in others the adjustment is made to create drafting between all of the rollers, according to the needs of the slivers in process of spinning. Some stock will not bear any drafting at all, due to the shortness of the staple, while other stock can be drawn out to considerable extent without marring the regularity of the filaments. As soon as the slivers leave the rolls D the twist begins to go in. For low counts of yarn the flyer system is used quite extensively. The flyer shown in the drawing and designated E serves three purposes. It retains the thread at the regular tension so necessary in spinning any kind of yarn, it puts in the twist by its revolutions and it winds the twisted end on the bobbin carried on its spindle. The necessary turns to the spindle are accomplished by the agency of the long drum H which extends the full length of the spinning frame and carries bands for all of the wheels G of the spindles. The turns of the yarn on the bobbin are regulated by a lift plate. The flyer proper is the U shaped device which is attached to the upper terminal of the spindle



and carries the thread through a hole in one of the legs at the lower end as shown.

### Mule Spinning.

The mule frame is shown in sectional form in Figure 2 in which the mechanical parts are sketched. The roving for spinning is taken from spools A which lie on the drum B. Each spool carries about forty ends, taken direct from the finisher card.

From the spool A the ends pass through the draft rollers C pretty much on the same principle as in the flyer system of spinning. Draft is accomplished by increasing the number of turns of the second and third sets of rolls over the first set.

Mule spinning imparts the twist to the roving while the carriage carrying the spindle D backs off. An extenuation of the roving is ef-

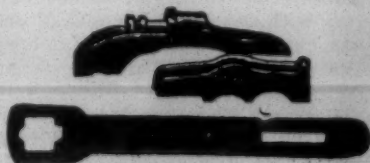
fecting simultaneously with the placing of the twist. The cylinder F carrying from three of four hundred bands to drive an equal number of spindles E is of course in the body of this carriage and all move together. After the carriage backs off and puts the required draft and twist in the ends, it automatically returns and at the same time winds the spun yarn on the bobbins with faller wires as a guiding medium.

As there are competent boss spinners, fixers and spinners to manage the spinning machinery and see to it that the work is correctly turned out, the average superintendent does not have to be a specialist in spinning. In fact, he could not be unless he had devoted a good part of his lifetime to spinning only. But it falls upon the superintendent to see that the yarn is right. Spinners are liable to get careless. They are paid by the piece and they hesitate to stop the frame long enough to properly piece up broken ends and in order to keep the machine going and register a good days work on the clock dial of the machine they piece broken ends with the machine running. Thoroughly skilled spinners usually get a good, even splice even when the machine is running. But the average spinner often makes a bad union, so that a strap piece of the yarn is left projecting as at G in Figure 3. Then again an examination of a lot of bobbins of yarn taken from a spinner who is incompetent, careless or untrained, will show double ends like that at H. These imperfect places in the yarn are going to bother in the following operations of spooling, warping and weaving. Many of the bad splices will break and have to be retied.

If they do not break they will get woven into the goods and show as imperfections unless removed by the speckers in the finishing department. If a spinner is going to splice the ends with the machine running, the best way is to take the twisted broken end from the bobbin between the thumb and forefinger of the right hand and twirl the end until the fibers open as at M. Then place this untwisted part the end of the roving K. To do this the latter should be held between the thumb and forefinger of the left hand in such way that the end in the right hand can be adjusted evenly against it. As the twist is constantly going into the twisted end, the joint will unite as soon as the two ends come together. When done this way the union will twist together evenly and neatly and be as strong as if no break had occurred.

## DIXON LUBRICATING SADDLE CO.

BRISTOL, RHODE ISLAND



Use Dixon Patent Stirrup Adjusting Saddles, the latest invention in Saddles for Top Rolls of Spinning Machines. Manufacturers of all kinds of Saddles, Stirrups and Levers.

WRITE FOR SAMPLE

## F. J. Domo & Co.

Cotton Brokers

116 Broad St. NEW YORK  
Orders Executed For 10 Bales  
or Multiples Thereof

Members American Cotton Exchange



# Six Sound Reasons Why The American Cotton Exchange Is Full Worthy of Patronage

The "AMERICAN COTTON EXCHANGE" is the only Cotton Exchange in the United States chartered for the purpose of buying and selling cotton in both Spots and Futures in lots of 10 BALES and multiples thereof.

The "AMERICAN" is also the only Cotton Exchange in the country whose contracts call for delivery to be made in the ten most advantageously located cities of the South in addition to New York. The great value of this plan is too apparent to require detailed comment here.

After a little over two years the "AMERICAN" has achieved exactly that which THE LARGEST COTTON EXCHANGE IN AMERICA had accomplished at the end of its twenty-third year, the memberships on the "AMERICAN" selling today for the same price as those on the older exchange sold at that time.

The volume of business transacted on the floor of the "AMERICAN" daily, weekly and monthly has made the marvelous increase of OVER 3,000 per cent in just two years, proving beyond all dispute that the Exchange is fully meeting a long felt commercial need.

The "AMERICAN" owns and occupies its own office building in the financial center of New York City, and in addition to being self-supporting is even now making substantial net profits—and remember only a good beginning has been made.

CHARTERED by the State of New York, efficiently guided by officials whose many years' practical experience with every phase of cotton, from planting to manufacturing, gives them mature executive judgment, and embracing numerous active members of proven capacity and trustworthiness as brokers, THE AMERICAN COTTON EXCHANGE is deserving of the support of all who are interested in Cotton.

## OF INTEREST TO ALL WHO ARE INTERESTED IN COTTON

Any of the Members of THE AMERICAN COTTON EXCHANGE, Inc., listed below will be glad to open up negotiations with Mill Owners, Planters, Merchants and Cotton Factors with reference to handling their "Hedges" in any amounts from ten bales up on a marginal basis of TEN DOLLARS per bale. These firms will also furnish FREE Weekly Market Letters, and gladly give the highest Banking and Commercial Ratings.

Oliver & Houghton  
59-61 Pearl St.  
New York

A. T. Jennings & Co.  
88 Broad Street  
New York

Martin & Company  
116 Broad St.  
New York

Eblin & Company  
33-35-37 S. William St.  
New York

*(These firms are members of The American Cotton Exchange Clearing Association, Inc.)*



**D**RAW-IN only one time and change to any cloth when you weave with

## "DUPLX"

Flat Steel Loom Harness

**STEEL HEDDLE MANUFACTURING CO.**

GREENVILLE

PHILADELPHIA

PROVIDENCE

Southern Office

509 Masonic Temple, GREENVILLE, S. C.

Hampton Smith, Sou. Mgr.

N. B.—We are the sole manufacturers of nickel plated drop wires for every kind of loom.

**—the Winder Boss  
will tell you—**

There is no time for cone-inspection in the Winding Room. He must get his cones on the winder as fast as the mandrels can be capped—or the cost sheet suffers. And each one must be as true as any *other* part of the winder itself—or the product suffers. That is why he works best with

## "Sonoco" Cones and Tubes

*Individually Inspected  
at the Factory*

Write for Samples and Prices to

**Southern Novelty Co., Manufacturers  
Hartsville, S. C.**

L. T. Shurtleff, Eastern Sales Agent, New Bedford, Mass.

### Third Prize Winners in Contest.

(Continued from Page 7.)

tem of drawing using 30 deliveries each and in 5 delivery heads for first and second. I would use metallic rolls and mechanical stop motion. Twelve-inch coilers throughout. I would use 1½-inch front rolls in order to get close settings.

The following roving machinery would be necessary: 4 slubbers, 12x 6-in., 72 spindles each; 6 intermediates, 10x5-in., 124 spindles each; 15 speeders, 8x4-in., 160 spindles each.

All roving to be equipped with solid middle and back rolls and shell front rolls, porcelain steps in creels and standard shop specifications otherwise. I would use Cocles cone belts on all frames. Slubbers and intermediates should be arranged in pairs and one operative given two frames and do own doffing. Much cleaner and better work is obtained if hands are not given too many frames. Good speeder hands can run 3 frames but will have to have doffers in order to get maximum hanks and at the same time keep frames and rolls clean. If two sizes of roving are being made on speeders it is advisable to purchase roving bobbins with painted tips to avoid the necessity of chalk marks which often will not bleach and also unless carefully marked at upper edge are not distinguishable and mixes result.

The electrical group drive for the card room is in my opinion preferable and should be arranged so that each process is driven separately.

The spinning room should be equipped with frames running across the width of the mill and I am in favor of rather the extreme as to length. This length would of course have to be governed by the width of the mill but if a width of 75 feet is used 2 frames across with motor alley in center and main alleys on sides is most efficient. Better light is obtained in alleys and also better ventilation with less liability of lint being blown into yarn from off frames by open windows. All frames should be equipped with 3½-in. gauge, 2-in. No. 2 flange rings, 7-in. traverse, filling wind, metallic thread boards, creels for double roving, roller or ball bearings for cylinders, tape drive and separators. Tape drive is particularly necessary as a slack twist bobbin will cause your customer all kinds of trouble. Do not think that clutch spindles are necessary and in fact the simpler and more standard you can get your machinery the better off you will be. A color system for different numbers of yarn should be installed and all bobbins painted accordingly. Mixed yarn will break needles if on the heavy side and knitting is fine gauge. Individual motors with silent chains are ideal for driving.

The winding should be done on a drum or open wind machine, the taper increasing as the size of cone increases. Large cones are essential if for use on underwear machines. Too much care can not be used in winding and slub catchers must be set close enough to remove all slubs and imperfections. If set so that a weaver's knot will not go through you will get them. If yarn

is for use on spring needle machine weaver's knots should be tied but spooler's knots can be tied if yarn is used on latch needle machines. I personally would install 10 100-spindle Foster machines and run them slightly under shop speeds. The same results could be had from the new Universal No. 80 on account of its large supply in knitting and uniformity of tension in delivery.

An adequate system of humidification should be installed and a conditioning room should be built adjacent to packing and shipping department. If not abused it improves the knitting quality of yarn and sets the twist. If abused it is not only unfair to customer but is injurious to yarn.

All cones should be very carefully inspected before shipping and no bad ones allowed to leave the plant. I personally employ an experienced knitter for this purpose.

Light and strong paper should be used and cases carefully made and packed. Most knitters use these cases over again and it means money to them if cases come in good shape. Remember that your customer is a big asset and must be given a square deal.

If I were to build a mill today I would build it as simply as possible and would then strive with all my energy to make a yarn which would satisfy my most exacting customer in good times or bad.

Plumer.

### Number Fifteen.

By W. H. Gibson, Sr., Dennison, Tex.

If I were building a mill, I would build a cloth mill. I would build a mill to manufacture cloth that had been used extensively and one that I thought would continue to be in use. I would install equipment that had a wide range of different goods, so if market conditions become unsettled on the kind of goods that I was making, with slight changing I could make other goods. However, I would not try to make several kinds of goods at the same time.

In writing this article I want to emphasize some of the general things that capitalists should consider before they build. I am not going to specify the size mill, or the name of the goods I would make. I am going to try to give a general outline that would be applicable to any kind of goods or size mill.

If I were building a mill, I would first decide the kind of cloth I wanted to make and the size mill I wanted to build. I would next see if sufficient funds was available to properly finance the mill with after it had been built. Lack of operating funds has injured many mills.

I would consider the locality, source of labor, raw material, power or fuel costs and shipping facilities. Sufficient real estate should be purchased to allow expansion. A site should be selected that could be made attractive where the mill and village was built, so the very best class of operatives could be secured.

I would operate with electric power. If I could purchase power from outside reliable sources as cheap as I could manufacture it, I

(Continued on Page 23)





## Chrome Colors THAT Leave Silk White

Pontachrome Red B  
Pontachrome Yellow SW  
Pontachrome Green GLO  
Pontachrome Blue R  
Pontachrome Violet SW  
Pontachrome Black SWB

In addition, these colors possess excellent fastness to light, washing and alkalis. All have good solubility and level well.

E. I. du Pont de Nemours & Co., Inc.  
Dyestuffs Department  
WILMINGTON, DELAWARE

Branch Offices:  
New York      Boston      Providence      Philadelphia  
Chicago      Charlotte, N. Car.      Greensboro N. Car.  
Watertown, N. Y.







## Reputation



BETTER than any printed guarantee of quality in Excelsior Needles is a reputation for more than a half century of making only good needles.

Our reputation to us is sacred.

Our needles must uphold it.



WITH an annual machine needle capacity of more than 250,000,000 needles of all kinds per year in our different plants, every advantage of quantity production and standardized manufacture accrues to the advantage of our product.

**THE TORRINGTON COMPANY**  
— EXCELSIOR PLANT —  
**TORRINGTON, CONN.**

C. B. BARKER & CO., LTD.  
140-144 W. 22nd STREET,  
NEW YORK.

MANUFACTURERS SUPPLIES CO.,  
CHERRY AND JUNIPER STS.,  
PHILADELPHIA.





# Knit Goods Section



## Fineness of Yarn First Consideration in Determining Gauge of Machine.

The adjustment of yarn numbers, stitches and machine gauges presents problems involving so many variable factors as to make it impossible to lay down rules of general application. The subject, although involved in uncertainties, is discussed in a recent issue of *Le Moniteur de la Maille* by W. Weister, who proposes various formulas for the construction of knit fabrics. In the following translation of his discussion the French expressions of measure have been retained, although they relate to both English and metric standards.

In determining the gauge of a knitting machine for knitting a particular fabric the first consideration is the fineness of the yarn which is to be used. It is important also to know what kind of goods is to be made, for a coarser yarn should be used on a circular machine than on a flat machine. When the yarn is too fine for a knitting machine the loops cannot be knit regularly nor will they be well filled out, the result being a thin, teeth fabric. If the yarn is too coarse the difficulties are even greater, the results being apparent in double stitches and an imperfect union of the stitches in the fabric, with an increase in the amount of waste made in knitting, the fabric being too full and lacking elasticity, which should be the predominating characteristics of knit fabrics. The remedies consist in the proper adjustment of the cams, the use of more suitable yarn, and a machine of which the gauge is suitable to the fabric desired.

It is for these reasons that in manufacturing seamless hosiery a finer yarn is used to produce a more elastic fabric in the leg of the stocking, while the heel is made of heavier yarn to give greater resistance to wear. On a flat machine of 7 gauge there is used, for example, in the foot a 4/20s yarn, while the heel is made of 5/20s, the latter being knit on a 6 gauge. For the leg of the stocking a 9 gauge corresponds to 3/24s wool yarn, while the heel is knit with 4/24s on an 8 gauge. It being possible to adjust the cams for variations of a few counts in the size of the yarn. The wool yarn from different spinning mills often varies in size and quality; some may be twisted harder than others. These variations can be remedied by adjusting the knitting machine so as to give the fabric corresponding to that knit from yarn of the right size. As the adjustment of the yarn sizes and machine gauges depends usually on the experience of the knitter, it is subject to wide variations. We will try to reach a mathematical solution of the problem in order to obtain a formula that is simply and practical.

In the accompanying tabulation:

$t$  is the space between the centers of two adjacent needles.

$a$  is the thickness of the needle.

$p$  is the thickness of the jack.

$u$  is the depth of the loop.

All these dimensions are indicated in millimeters including the diameter of the yarn  $d$ . Assuming that the machine is running ordinarily without any spaces between the elements named, we obtain the following formula:

$$(1) t = a + 2d + p$$

In this equation  $d$  being the diameter of the heaviest thread that may be used, we have:

$$(2) d \text{ equals or is less than } (t - a - p) \div 2$$

This simple formula is based on the assumption that the diameters, particularly the diameter of the yarn, can be measured with instruments of precision used in other branches of the textile industry, the count being determined by reference to special tables.

We will now apply this formula to gauge 7, using the English standard, that is, the number of needles in one English inch (25.4 mm.). The space between two needles in a 7-gauge machine is:

$$t = 25.4 \div 7 = 3.63$$

We will assume that the diameter of the needle is:

$$a = .25t$$

The thickness of the jack is assumed to be:

$$p = .25t$$

From the above we have:

$$a - p = (3.63 \div 4) = .90$$

Applying formula (2) to the above we have:

$$d = (3.65 - .90 - .90) \div 2 = .915 \text{ mm.}$$

Yarn of this diameter is equal to 4s English cotton standard. The above example refers to a fabric made of 4/20s yarn which is equal to 5s single. As the ply yarn is thicker than the single yarn which may be concluded that the diameter (.90 mm.) of the yarn corresponds with actual fabric in practice. It also indicates the advantages of indicating the size of the yarn by the diameter.

As the length of the loops depends upon the fineness of the yarn used it is advisable to knit a small sample of the cloth in order to calculate exactly the width of the goods that are to be made. For this purpose a sample is knit with 100 courses on 100 needles. The sample is measured and the number of needles and courses is determined for one inch of fabric. If the number of needles in an inch of the needle-bed and the number of stitches in one inch of the cloth are counted it will be found that the latter is generally greater than the former because of the take-up of the cloth. If the width of the goods is to be changed, a calculation is made to determine how many loops should be added or taken away in order to give the width desired. A reduction of the width is made by transferring a certain number of loops from the outside needles to the adjacent needle,

putting the outside needles out of action. This is done whenever it is necessary to give the fashioned shape desired. If the width is to be increased additional loops are formed on the needles outside of the end stitches. Allowance must be made for the take-up of the fabric after knitting. For calculating the yarn to be used and the width and length of the goods we will use the following symbols:

$l$ , length of one stitch in millimeters.

$n$ , number of needles in the entire width.

$B$ , width occupied by the needles in centimeters.

$R$ , number of rows.

$L$ , total length of centimeters.

$K$ , total length of the knit fabric in centimeters.

$Nm$ , metric gauge of the machine.

$Nf$ , number of the yarn.

From the accompanying illustration we have:

$$l = 1.5708 (a + d) + 2u + 1.5708 (t - a - d) = 1.5708t + 2u$$

This equation proves that the length of the stitch depends on the diameter of the thread and the distance between two adjacent needles. Now we can calculate the total length of the yarn, that is to say, the quantity of yarn used:

$$B = nt \div 10$$

$$t = 100 = Nm \text{ equals } 10B \div n$$

$$W = R \times U \div 10$$

$$L = n \times l \times R = 10B \div t \times 1/10 (1.5708 \times t + 2U) \times (10W \div U) = 5 [(3.4416 \div U) + (1 \div t)] B \times W$$

The equation expresses the length of the yarn in centimeters which we must divide by 100 to reduce to meter and by 1,000 to obtain the number of kilograms.

In order to determine the weight of the yarn in kilograms we divide the number of hanks by the number of yarn.

All the known dimensions are included in this equation except the depth of the loop  $u$ , which can be easily measured by taking into account the position of the cams and thickness of the heel of the needle. As  $B$  and  $W$  are measured when the knit fabric is stretched under tension, it is necessary to make an allowance of 25 per cent to 35 per cent on the dimensions thus obtained.

## Knit Goods Market Improving.

Improvement is indicated by what the trade is saying rather than in what it is doing.

Mills are receiving substantial inquiries from New England, where during the 22-weeks strike of mill workers jobbers were holding aloof. These inquiries generally are of a tone which is susceptible of only one meaning—that distributors are about to come to market for their requirements, says The Special News Letter of the National Association of Hosiery and Underwear Manufacturers.

Letters from jobbers are reaching manufacturers asking how late they will be willing to deliver at present prices, all showing an interest in goods for fall. One mill received an order running into November, but was willing to deliver only to August 31. "Go ahead to August," the jobber wired, "but cancel the rest of the order." This house evidently is less afraid of prices than of stock, feeling, probably, that mills will carry it for the distributor.

There has been modest increase in buying for future at current prices, in face of the possibility of a walkout of railroad employees and a presumptive cooperation with the striking coal mine operatives. Transactions which ordinarily might pass unnoticed and opinions volunteered by the chiefs of large establishments would seem to constitute a barometrical forecast of a period of comparative briskness—with emphasis on comparative. The cotton textiles market has passed through the worst.

But there is an all-around unwillingness to put goods in stock. Jobbers are unwilling to do that which they would have manufacturers do—carry stock. Retailers always have bought for anticipated requirements—they never could tell when the consuming public might be ready to operate. Just now neither retailer nor jobber, speaking in a broad way, is disposed to anticipate. A paragraph in a recent trade circular letter of Hubbard Brothers & Company, cotton brokers, fits the case. It reads:

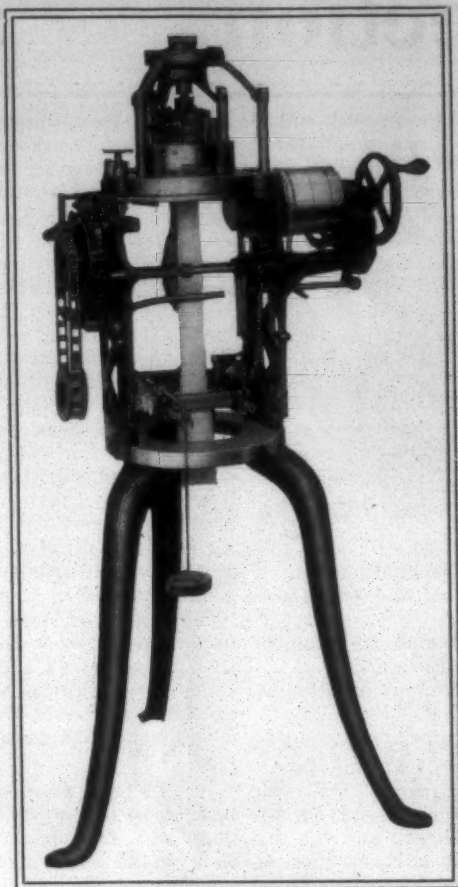
"It is difficult to distribute cotton goods at advances in price because, merchants frankly say, they believed the government crop estimate last year; they bought goods and lost money. They therefore say they will wait for further information. Meanwhile they will permit the mills to carry the goods."

Distributors, with here and there an exception, gauge their needs by what they have sold, not by what they have prospect of selling. A jobber in Boston was worried several weeks ago over five cases of unsold nainsook athletic suits. They don't amount to much, he admitted, "but they are not selling and what are we to do with them?" he wanted to know. Boston had the hottest June 8 in 54 years, according to the records of the weather bureau, and in three days he sold the five cases and in less than another week, he says, he could have sold ten more, had the goods been in stock.

A department store buyer wrote a fair sized order for hosiery and took it to his merchandise head for his O. K. "I think we had better not buy these goods just now," he said. "We need them; they're selling," the buyer pleaded.

Assuming a paternal, self-satisfied aid, the merchandise man said to the buyer, "You have made money for your department; you have done first ate, and you have not been





## BRINTON RIBBERS

possess all modern improvements, including selvage welt, French welt, double knee, dogless and stripping attachments, with automatic stop motions.

Built in all sizes, for all classes of rib work.

We also build hosiery knitters and Body machines for underwear and various other circular machines for all kinds of knitted articles.

*Samples and Prices on Request*

**H. BRINTON COMPANY**

Philadelphia

Pennsylvania

carrying much stock. Now keep on as you have been doing. It might be all right to buy a few boxes, but I know you can get along for a time without putting this order through"—and that is what the department head has since been trying to do.

One big jobber's hosiery order called for one case each of four colors of one number and 30 dozens each of two colors of another number. This house ordinarily would regard that only a part of an order from its average retail customer.

### Hosiery Advances That Cause No.

#### Excitement.

Several southern mills announce these advances: Ladies' sewed tow, 20 ounce, 176 needle carded stockings, five cents to 85 cents; ladies' 200 needle, three-thread heel and toe, 7 1-2 cents, to \$1.02 1-2; ladies' fleece lined 2-pound, five cents, to \$1.80; boys' 2x1 ribs, five cents, to \$1.75 on size 8; ladies' carded, 200 needle, high spliced heel and double sole, 15 cents up, to \$1.25; misses' coarse gauge ribs, five cents up, to 95 cents.

These figures are significant chiefly as showing that southern mills are getting too little money for hosiery made from cotton of a replacement value of 23 cents, N. Y. Exchange spot.

A western mill reports that if each of its customers buys one case additional of all the colors and shades bought in the initial orders it will be a question whether some of them will not be disappointed in deliveries.

H. E. Schwarz, of Salomon Stern, Ltd., of America, importers, is quoted as saying there is bound to be over-production of silk hosiery. This is not in line with current demand. The Special News Letter has an urgent request from a mill agent for the name of a manufacturer of ladies' 12-thread, full fashioned silk hosiery, prepared to accept orders for the jobbing trade. He says he is willing to pay cash.

An early fall will precipitate brisk demand for hosiery in silk and wool mixture, says an important jobber, who looks for a strong market, in any event, so soon as selling weather sets in.

A mill line of silk and wool goods opened last winter at \$14 has been marked down by easy stages, until now it is offered at \$12.

Silk half hose is commanding no more than when raw silk was obtainable at \$1.50 a pound less. A mill balks at selling further at current figures, but would be willing to put goods out at a margin of 15 cents a dozen for feeling out buyers.

### Silk and Wool Hosiery Outlook.

Hosiery of wool and silk is giving certain manufacturers no little concern, and there is manifest some uneasiness among jobbers.

The situation which confronts manufacturers is well defined by one whose product takes rank with that of the mills in best repute. As there has been uncertainty over shade and color scheme, buyers have been slow to submit specifications. These are expected to come forward with new business, when dealers disappointed in deliveries from mills will want to substitute others. By the middle of July or the begin-

ning of August, therefore, mills producing dependable lines should be besieged with orders, and the inference might be that goods ought to be put in stock in the gray for cross-dyeing or yarns be in readiness for ingrain work. But the trade has said advance prices will not be paid, and at opening figures manufacturers cannot meet the jobbers idea of values.

The manufacturer referred to shows that when prices were named he was paying \$1.70 for worsted yarn, against \$2.30 at present, and that silk then was costing him \$6.90, in contrast with \$8.25. His minimum cost increase per dozen pairs of stockings is \$1.70. He believes there is a good future to the market, but he distrusts the methods of some distributors, and between belief and distrust he is doubtful of the expediency of going ahead in advance of something definite from buyers. If manufacturers generally are similarly disposed, there is a very remote possibility of oversupply of silk and wool hosiery of distinction, but there will be less remoteness if mills accumulate goods while buyers are resisting prices representative of value.

At grade silk and wool hosiery for women look at this writing as a winning proposition. What was made up on the assumption that "anything in the class will answer" may not have such easy sailing.

Several jobbers have made it plain that if the silk and wool goods which were bought at around and under \$12 a dozen will not be accepted if they do not reach the consignee's railroad station by nightfall of the date on which delivery is due. One merchant went even further. He said he has found that the low grade heathers which he bought cannot sell in competition with others afterward were offered, and that having been disappointed, and representing that there is a ground for fearing the goods will not prove satisfactory, he will either take the goods at a rebate from the invoice price or not take them at all.

Disturbing statements of this character may be put out for demoralizing manufacturers of the cheaper types of heathers. They would have a more serious effect if they emanated from sources commanding more respect than that in which the threat referred to was heard by a manufacturer.

Cancellations of high-class heathers some months ago, and the fact there has been no buying since, would seem to augur well for brisk demand a month or six weeks hence, with a number of mills defaulting in deliveries.

Carded heather half hose is coming out in fully as great quantity as may be required. Several Pennsylvania manufacturers are pushing heathers of 144 and 176 needle, and one says he has booked enough business on cheap carded novelty socks to keep his mill engaged for three months. Heathers in this class, it is pointed out, may upset the calculations of several manufacturers of staple socks of coarse gauge.

### Philadelphia Cotton Yarn Trade.

The Philadelphia cotton yarn bids fair to finish the first half of the



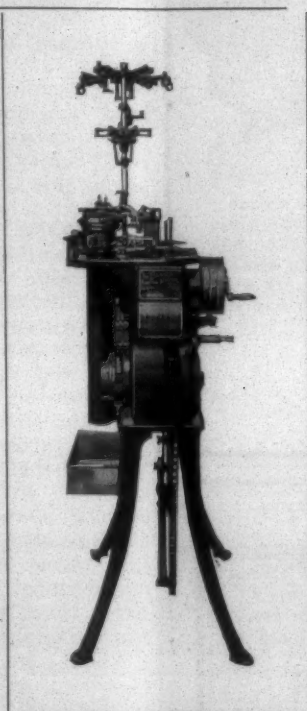
# BANNER

FULL AUTOMATIC

## HOSIERY MACHINES

Speed  
Simplicity

—  
All  
Sizes



Production  
Quality

—  
All  
Guages

We are now prepared to make prompt deliveries on two new modles, the *Banner Spring Beard Needle* and the *Banner Split-Foot* machines, built in sizes 3 1-4" 3 1-2" and 3 3-4", either 48 or 54 guage.

# HEMPHILL COMPANY

MAIN OFFICE AND PLANT  
PAWTUCKET, R. I.

PHILADELPHIA OFFICE  
Colonial Trust Bldg.  
Rooms 208-9-10

CHATTANOOGA OFFICE  
James Building  
Rooms 912-13



## John W. Hepworth & Company

N. W. Cor. Lehigh Ave. and Mascher Street  
PHILADELPHIA, PA.

Makers of

**Two-Thread Elastic Lock Stitch Looper**

**Also Attachments**

for changing our  
single stitch  
loopers into the  
two - thread  
loopers.



## Chauncey A. Williams

*Everything In*

## Latch Needles

Factory and Main Office : MANCHESTER, N. H.

Philadelphia Office—40 South 7th Street

Makers of "CAW" Brand Needles

year at the nearest point in an absolute stoppage of transactions recorded in a long time. The brightest spots are in weaving yarns, more especially for upholstery and pile work, with some little attention to carpet yarns.

There is almost total absence of demand for carded yarn for hosiery purposes, but some little buying by a few underwear mills and inquiry of an indifferent character from others. There have been intimations from several manufacturers of underwear that they would be glad to consider purchasing but for the fact they cannot sell their goods priced on yarn when it was costing them ten cents less per pound. In the circumstances they did not pass beyond the discussion stage of the situation.

Undoubtedly there is a stiffening among spinners, apparent justification for which is seen in a hardening of cotton values. It is noted that the spread between low grade spot rowing, while for goods white cotton, depending on the staple, it has been widening. In one week low grade tinged cotton jumped from 18 1-2 cents to 19 1-2 cents, a spinner paying this advance over a purchase of the week before. Commenting on the outlook, the head of a well known southern spinning establishment said: "Even though cotton futures decline in the face of favorable weather, I can see no lower price for spots, as cotton is in strong hands and can be held for wider premiums on futures."

In the absence of demand for combed yarns for hosiery, it must be assumed that mills were fairly well covered. In any event, they are offering no worth while contracts, although it is commonly understood that there has been considerable improvement in the market for hosiery from combed yarns. Mills which are about at the end of their stores of yarn probably will not buy at present prices until jobbers and retailers evidence a willingness to operate at advances. When the arrive at that state of mind, there

cotton and middling upland is near seems no doubt spinners will move their prices up still further unless in the meantime a bigger cotton acreage than was forecast in the government estimate of June 2nd seems likely.

Mercerized yarns in 50 and 60 ply have enjoyed a fairly good sale, with sole interest being shown in 70 and 80. Mercerizers quoting above \$1.30, basis of 60 two ply, are reported getting very little of the business, while at figures around \$1.20 and down there has been enough operating to keep several mercerized and bleaching plants employed day and night.

It is estimated that in the 22 weeks since the cotton mill strike in New England mills was inaugurated there has been a loss of production amounting to 215,000,000 yards of piece goods. It may be significant that all the while cotton and yarns climbed to higher prices. What will be the course of these materials when the 30 mills involved in the strike get back to normal production is left to conjecture.

### Less American Cotton in Liverpool.

The Liverpool cotton market for April is reported by Consul Washington, Liverpool, to have been generally quiet and featureless, sales being far below those of February and March. Actual sales at Liverpool in April totaled 137,420 bales, of which 89,400 were American, a decrease of 11,000 bales of American cotton and 23,000 bales of all other kinds.

The inspector of the cotton service of Sao Paula, Brazil, has reported that the curuquere (leaf form) has invaded, with considerable damage, the cotton fields of the State of Sao Paulo. Cool weather favors the spread of this plague, but efforts are being made to combat it, says Consul General Gaulin, Rio de Janeiro, in a report to the textile division of the Department of Commerce.

## Seaboard Air Line Railway

Announces

### WEEK-END EXCURSION FARES

To

### SEASHORE AND MOUNTAIN RESORTS.

From Charlotte, N. C. To	Round Trip Fare	From Charlotte, N. C. To	Round Trip Fare
Portsmouth, Va.	\$15.10	Hickory, N. C.	\$ 2.55
Virginia Beach, Va.	15.60	Lenoir, N. C.	3.40
Wilmington, N. C.	8.15	Linville Falls, N. C.	5.05
Wrightsville Beach, N. C.	8.60	Alta Pass, N. C.	5.75
Rutherfordton, N. C.	3.45	Spruce Pine, N. C.	5.90
Lincolnton, N. C.	1.40	Switzerland, N. C.	5.60
Shelby, N. C.	3.30	Unaka Springs, N. C.	7.80

Tickets on sale Fridays and Saturdays June 16th to September 23rd, with final limit to Tuesday following date of sale.

For further information call on Ticket Agent or address

**E. W. LONG,**  
Division Passenger Agent,  
Charlotte, N. C.



**Decrease in Underwear Production.**

Knitted Underwear production for May, according to figures supplied by the Knit Goods Manufacturers of America, covering 33 mills, amounted to 77.0 per cent of normal. This percentage is the lowest since January of this year, but the highest of all months in 1921 with the exception of October, when the percentage was 80.27. The record month was March 1922, with 86.4 per cent for 37 mills reporting, with the next highest in April, 1922, with 82.1 per cent in 3 mills reporting.

The actual production for the 33 mills reporting for May, 1922, was 403,827 dozen, as compared with the normal production of 524,784. In May, 1921, actual production 336,108 or 56.6 per cent of normal.

Unfilled orders (on the appended figures dropped from 1,072,637 in April to 767,224, in May. In May last year they amounted to 543,071.

New orders reached 474,872 in May, 1922, which with the exception of January was the highest in seven months.

Shipments dropped from 357,605 dozen in April to 291,761 in May.

Following are the tables prepared by the association.

Analysis of reports of underwear production for May, 1922, furnished by the Federal Reserve Board.

"In May, 1922, reports were received from 47 mills producing underwear, as compared with 53 in April and 62 in May, 1921. Production during the month showed a slight decline compared with last month, but the loss was very inconsiderable compared with the loss during the preceding month. May production of 508,150 dozen by 47 mills shows an increase produced by 62 mills in May, 1921. Production during the month showed a slight decline compared with last month, but the loss was very inconsiderable compared with the loss during the preceding month. May production of 508,150 dozen by 47 mills shows an increase of 12,803 dozen over the amount produced by 62 mills in May, 1921. Production of 47 mills in May was 74.2 per cent of normal, of 53 firms in April, 82.7 per cent of normal, and of 62 firms

in May, 1921, 55.4 per cent of normal. Production of winter underwear in May amounted to 298,080 dozens, whereas summer underwear output totaled only 220,070 dozens.

"Comparative reports received from 33 mills belonging to the Association of Knit Goods Manufacturers of America, show an opposite trend of from last month. Orders on hand at the first of the month showed a loss of 52,116 dozens or 8 per cent, but the large volume of new orders and the decline in shipments resulted in an increase in orders on hand at the close of the month of 171,884 dozens of 28.9 per cent. New orders during the month registered an increase of 228,428 dozens or 92.9 per cent and the production increased from 392,578 dozens to 403,872 dozens, a gain of 2.9 per cent. Shipments and cancellations, however, declined from 326,717 dozens 14,711 dozens to 291,761 dozens and 11,227 dozens respectively.

**South Carolina Mills Lose Fight on State Tax.**

Greenville, S. C.—The South Carolina Supreme Court has handed down an opinion at Columbia declaring the recently enacted State income tax law to be constitutional and dismissing the temporary restraining order granted to the Santee Mills, the Winnsboro Mills, the Union-Buttalo Mills and the Pacific Mills, as well as denying the plea for permanent injunctions as prayed for by the plaintiff mills.

**Swedish Markets for Textiles.**

German manufacturers are now delivering in Sweden well finished, ready-made dresses and clothing at prices lower than that quoted by American exporters for dress goods and suitings, says Consul General Murphy, Stockholm, French and English textile manufacturers also are actually underselling Americans by wide margins. Terms granted by competitors of American goods are thirty days after shipment and three months' credit.

# Southern Railway System

Announces

## Greatly Reduced Round Trip Fares

— For —

SUMMER SEASON, 1922

## Take Your Choice

Week-end fares, Sunday excursion fares, Summer excursion fares, Special excursion fares to Atlantic City and Niagara Falls

### Atlantic City and Other Jersey Seashore Resorts

Dates sale via Sou. & P. R. R. June 28th, July 18, August 1st and 15th.

Date sale via Sou. & B. & O. July 6th, 12th and 26th, August 9th and 23rd.

### Niagara Falls via Washington or Philadelphia

Dates sale via Sou. & B. & O. June 29th, July 13th and 27th, August 10th and 24th.

Dates sale via Sou. P. R. R. July 5th and 19th, August 2nd and 16th and 30th.

## TICKETS GOOD FOR 18 DAYS

Tickets good for stop-overs on return trip at Washington, Baltimore, Buffalo and Philadelphia

## Week-End Excursion Fares

On sale Friday nights, Saturday and Sunday mornings to Seashore Resorts and Western North Carolina Resorts.

Tickets good until following Monday and Tuesday (Exception tickets to Western North Carolina sold Saturday and Sunday morning, good return until following Monday).

## Sunday Excursion Fares

TO

## Norfolk, Wilmington and Morehead City

These tickets are on sale Saturday nights and Sunday mornings from Salisbury, High Point, Winston-Salem, Greensboro, Durham, Raleigh, Princeton and all intermediate stations. Good returning Sunday night. Not good in sleeping or Parlor cars.

## SPEND SUNDAY AT THE SEASHORE

## Summer Excursion Fares

— TO —

## All Resorts

Mountains, Springs and Seashore.

Tickets on sale daily, final limit October 31st, 1922.

Stop-overs permitted in both directions.

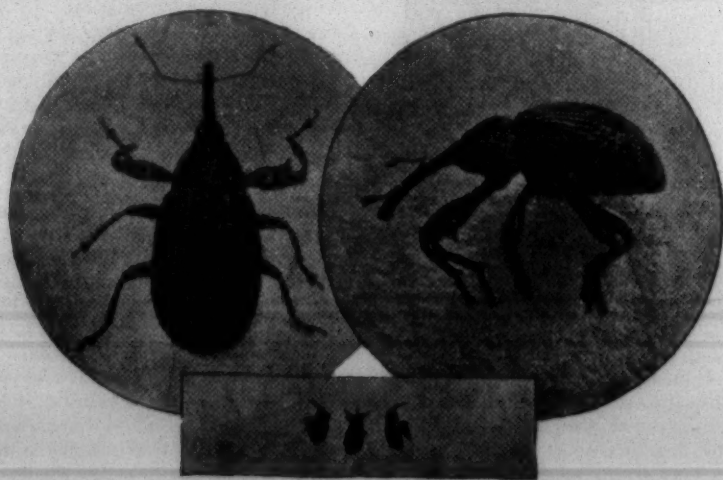
Through Pullman Sleeping Cars to All Important Points.

Excellent Service—Courtesy—Convenient Schedules.

Write for Beautiful Southern Railway Summer Resort Booklet and Other Literature.

For Further Information Call on Southern Railway Ticket Agents or Address:

R. H. GRAHAM, Division Passenger Agent,  
207 West Trade Street Charlotte, N. C.



BOLL WEEVILS.

The small figures at the bottom represent the actual size while the two views above show the boll weevil magnified several times.





## Disinfecting Up-to-Date

A Modern Way of Reducing  
Overhead Expenses

Most manufacturing plants have not bothered with Disinfectants in the past, on account of the high cost of material and labor to apply same in a proper way. MIDLAND PINE CLEANSER eliminates this cost by combining a high class cleanser with a mild Disinfectant, the two results being accomplished in one operation.

We have been established for nearly a quarter of a century. All our products are manufactured by us and are fully guaranteed by our trademark. You need have no hesitation in placing an order, as we have ONE PRICE and ONE QUALITY only and we know our goods and our service will please you.

LOOK FOR OUR TRADEMARK



WE HAVE NO BRANCH HOUSES

Manufactured only by

**Midland Chemical Laboratories, Inc.**  
DUBUQUE, Iowa, U. S. A.

## THE NEWPORT COLORS

For  
Cotton and Silk  
Knit Goods

Announcing the production of  
NEWPORT DEVELOPED BLACK S  
EXTRA CONCENTRATED

This superior developed black is now  
ready for the market

Intense Fast Economical

## NEWPORT CHEMICAL WORKS

(INCORPORATED)

Passaic, New Jersey

Branch Sales Offices:

Boston, Mass. Providence, R. I. Philadelphia, Pa.  
Chicago, Ill. Greensboro, N. C.



## ROLLER DRAFTING

The arrangement of drafts tending to get out of the control of throughout the mill is a factor of the drawing rollers for a short paramount importance, for upon the period, so that they will not be under arrangement depends, to a large extent, the possibility of producing a yarn that will be up to the required control for the maximum length of time.

Up to the present we have dealt with the effect of staple length, regularity of the staple, and the diameter of the fibres on the maximum drafts of success on all machines from the draw frame onwards, but not including the draw frame.

There is another factor in connection with the cotton fibre which has to be taken into consideration, and that is the nature of the fibres, i. e., whether the fibres are of a smooth, soft, pliable nature, or of a harsh, wiry nature. Fibres which are of a harsh, wiry nature will offer greater resistance to drawing than soft, pliable fibres; they will tend to be kept under control during the drafting for the maximum length of time. Against the above factor of tending to be under control better is the factor of resistance to drawing, resulting in the rollers having to be set more open, a factor in itself which tends to produce bad drafting. So that it follows that, although the harshness of the fibres tends to keep the fibres under better control, it also tends to interfere with drafting since the rollers have to be set more open; the amount of interference is generally such as to demand a reduction in the maximum draft that can be employed.

In order to arrive at the correct drafts throughout the entire mill, several factors have to be taken into consideration, such as class of cotton, counts of yarn, class of yarn and the number of machines at your disposal; each of the above factors having some direct bearing upon the final arrangement of the drafts, as will be seen from the following remarks:

This affects the drafts in that the maximum draft that can be applied at each machine is controlled, to a large extent, by the length of the staple; for instance, for the short-stapled cottons it is not practicable to employ high drafts, or, similar drafts as would be employed when using long-stapled cotton, such as Egyptian or Sea Islands, for two reasons, viz:

First: The number of fibres contained in a given cross-section of the material is less for the short-stapled cottons, since they are greater in diameter.

Second: The length of the individual fibres is considerably less, resulting in the fibres not being under the control of the drawing rollers for the same length of time. It will be quite obvious to the average spinner that (given equal conditions as regards counts of silver, drafts and speeds) the fibres of cotton of short staple will not receive the same amount of drawing action as the long fibres, since, on account of their length, they will not be under the influence of the drawing action for the same length of time, and, also, they will not be under the control of the drawing rollers to the same extent, the result will be to increase the tendency of drafting to cause irregularities.

Successful drafting can only accrue when the majority of the fibres contained in the material are under the control of the drawing rollers for a longer length of time, and given roller speed. So that it follows as a natural law that long-stapled cottons, can be subjected to higher drafts than short-stapled cottons, since they will naturally be under the influence and control of the drawing rollers for a longer length of time, and also since their diameter is less there will be a greater number of fibres composing a given cross section of the material.

The maximum draft that can be applied with any measure of success is also affected by the regularity of the staple. With a cotton which is irregular in staple it will not be practicable to employ as high a draft as could be employed if cotton of regular staple was being used. For the following reason: Owing to the irregularity of the staple, resulting the short fibres

tending to get out of the control of the drawing rollers for a short period, so that they will not be under control for the maximum length of time.

Up to the present we have dealt with the effect of staple length, regularity of the staple, and the diameter of the fibres on the maximum drafts of success on all machines from the draw frame onwards, but not including the draw frame.

With coarse counts where only single roving is employed at either the mule or ring frame, the maximum draft that can be applied is considerably less than would be employed if double roving was used, as is the case in medium and fine fine counts, generally from 40's upwards, for the following reasons: Since the hank roving, with single roving, is practically two-thirds of the weight of the two rovings combined, as in double roving, the number of fibres of cotton passing between the drawing rollers at one point is greater in the case of single roving, resulting in the fibres being gripped by the rollers, in the center of the roving, sufficiently well, whilst the fibres at the sides of the roving will not be gripped to the same extent owing to the roving being bulky in the centre, the result of such action being that the fibres at the sides will, more or less, be drawn forwards at an irregular rate, resulting in irregular yarn being produced.

In order to reduce the tendency of causing such irregularities, the draft, with single roving, is reduced by about one-third, making the maximum draft with single roving about two-thirds to three-fifths of the maximum draft with double. To make the case more clear we will take the following example: We will assume we are producing on one mule 72's with a 6 hank (single roving) and a draft of 12, whilst on another mule (72's) with 12 hank used. For the following reason: (double roving) and a draft of 12 in the rollers. In the first case the roving will be more bulky since it



will only be passed through the rollers at one point, resulting in the fibres at the sides not being gripped sufficiently well and causing an irregular yarn to be produced.

In the second case we have two rovings of 12 hank each passing through the rollers side by side, each roving containing half the fibres contained in the 6-hank roving, with the result that there will be less bulk acting at one point, since the material will be in contact with the rollers at two points, and owing to less bulk of fibres at one point, there will be every tendency for the fibres at the sides to be held under control to the greater extent by the rollers, with the result that a more regular yarn will be produced. In both cases it will be seen that the rollers have had to deal with the same number of fibres, but in one case all the fibres have been in contact with the rollers at one point, whilst in the other case the fibres have been made to pass between the rollers in two portions, resulting in less bulk acting at any one point.

Another point in favor of higher drafts, in the case of double roving, is the fact that doubling tends to compensate for any irregularities that may be caused by drafting.

Higher drafts are permissible with combed slivers, etc., than carded in the fly frames and mule or ring, for the following reasons: First, owing to the process of combing, the fibres of cotton are laid more in parallel order along the material, so that during the passage of the material through the various processes the fibres are kept under control better during drafting, since they will naturally cling closer together and be in less bulk.

Second, the major portion, if not all, of the short fibres and fibres below a specified length will have been extracted at the comb so that the rollers in the fly frames, etc., can be better set to suit the length of staple, resulting in the maximum number of fibres being kept under the control of the rollers for the maximum length of time. There will also be less dirt and fly in the material, a factor conducive to less wear of the roller covering.

This is often the determining factor in the general arrangement and setting out of the drafts in the various machines employed in the card room. It was a point to which the attention of many mill managers was directed during the early part of the late war, when many mills had to change to coarser counts, a point which caused a great amount of anxiety and worry at that time. It has to be borne in mind that all machines in the mill are interdependent upon each other as regards production and counts, and also that they must be kept running for the maximum number of hours per week. On no account must the production of one machine get in front or behind the production of the one it feeds. So that it follows that each machine in the series has to produce a given weight of cotton. In order to conform with the above factors the counts delivered from each machine will be controlled to a large extent by its productive ca-

capacity, and consequently the drafts that may be applied will be controlled by both the counts fed and the counts delivered, so that it does not always follow that ideal drafts can be applied at any one machine in the mill.

#### Rules for Filing Railway Claims.

(From Bulletin Issued by American Cotton Manufacturers Association.)

"1. On interstate shipments, carriers may lawfully provide that a claim for loss, damage, injury or delay to goods must be filed within six months as a condition precedent to recovery.

"2. Unless claim is filed within six months, the shipper loses his rights and cannot recover for his loss in court. This was decided in the case of Georgia F & A. R. Co. vs. Blish Milling Co., 241 U. S. 190, 60 L. Ed. 948.

"3. The Federal law provides one exception where a claim need not be filed, to-wit: "if the loss, damage, or injury complained of was due to delay or damage while being loaded or unloaded or damaged in transit by carelessness or negligence."

"4. This exception means nothing to a shipper in actual life, because to take advantage of it he must prove the actual special negligence that caused delay. In other words, the law raises no presumptions in his favor.

"5. The Supreme Court of the United States in the case of Gillette Safety Razor Company, vs. Jas. C. Davis, Director-General of Railroads, recently decided, and the Supreme Court of North Carolina, in the case of St. Sing vs. American Railway Express Company, 11 S. E. 710, have just held that even in cases where the goods were lost and never delivered, the shipper could not recover in court, since he had not filed a claim within the six months period.

"6. In short, a shipper must prove actual negligence unless he files a claim, and in most cases such negligence cannot be proved because the shipper did not see the property during its transportation.

"7. This bulletin is issued to remind our members of the necessity and importance of filing all their claims within six months, so as to fully protect their rights and retain the benefits of the presumption of law in their favor."

#### To Build Power Line.

Camden, S. C.—Paul Davis of the Palmetto Power and Light Company was in Camden recently making arrangements for the survey of a right of way for an electrical transmission line from the Wateree Power company dam to Camden, a distance of approximately nine miles.

Engineers will arrive in Camden this week to run the preliminary survey and locate the course of the proposed line. The Palmetto Power and Light and Power company has signed a contract to furnish the local municipal plant and the Wateree Mills with hydro-electric power for a period of five years at a cheap rate.

## Atlantic Yellows Atlantic Blues Atlantic Maroons

Specialists in Sulphur Colors—all efforts are expended in producing finished products, which ARE SUPERIOR to any prevailing types.

### ATLANTIC PATENT BLACK

is accepted American Standard of Sulphur Blacks. It possesses greater solubility, greater strength and greater brilliancy.

*Use Atlantic Products  
Where Superior Results are Desired*

## Atlantic Dyestuff Company

PORTSMOUTH, N. H.

NEW YORK  
CHARLOTTE

BOSTON  
CHICAGO

PHILADELPHIA  
PROVIDENCE

# Starch

The Cotton Textile Manufacturers require a variety of starches to produce specifically desired results,

OUR KNOWLEDGE of the needs of the textile industry,

OUR UNEXCELLED FACILITIES for producing a wide range of products,

OUR ORGANIZATION FOR SERVICE in assisting to solve the sizing and finishing problems of the Cotton Manufacturer,

Fit us to meet these varied requirements.  
For the best results use these standard starches.

400 Mill

500 Mill

Eagle ★★★★★  
Eagle ★★★★★  
Eagle ★★★★★  
Eagle ★★★★★

Famous N

C.P. Special

Blue River Crystal

CORN PRODUCTS REFINING CO.

NEW YORK

Southern Office: GREENVILLE, S. C.

# Starch



# SOUTHERN TEXTILE BULLETIN

Member of Audit Bureau of Circulations.

Published Every Thursday by  
**CLARK PUBLISHING COMPANY**  
Offices: 39-41 S. Church St., Charlotte, N. C.

DAVID CLARK.....Managing Editor  
D. H. HILL, JR.....Associate Editor  
J. M. WOOLLEY.....Business Manager

**SUBSCRIPTION**  
One year, payable in advance.....\$2.00  
Other Countries in Postal Union.....4.00  
Single Copies......10

Contributions on subjects pertaining to cotton, its manufacture and distribution, are requested. Contributed articles do not necessarily reflect the opinion of the publishers. Items pertaining to new mills, extensions, etc., are solicited.

**ADVERTISING**  
Advertising rates furnished upon application.  
Address all communications and make all drafts, checks and money orders payable to Clark Publishing Company, Charlotte, N. C.

**THURSDAY, JUNE 29, 1922.**

## Union Brutality.

After the battle between union and non-union miners in Illinois last week a newspaper correspondent who entered the battle gave reports the following as one of the incidents he witnessed:

"Out in a road near the mine, six men tied together, all of them wounded by bullets and blows, lay in a scorching sun, while hundreds of men and women laughed at their pleas for water.

"One of the men, his face bloody and one shoulder shot away, apparently was within a few minutes of death.

"Please, boys, give me a drink," he moaned.

"A laugh from the hundreds of spectators was the only reply.

"The correspondent rushed to a house for water and when he returned he was faced by a sword and quickly drawn pistols and told to keep away.

"When the man begged for water, 'for God's sake,' a young woman with a baby in her arms, placed her foot on the mangled body and said:

"I'll see you in hell before you get any water."

"The men apparently had been dragged down a rock road behind an automobile. Their clothes were torn and pieces of gravel were imbedded in their mangled flesh."

This incident occurred, not among the wild savages of Africa but in the United States of America where freedom and civilization is a proud boast.

More than forty men were killed and many of them tortured inhumanly because they refused to quit work and submit to the dictation of union leaders.

Fully five thousand attacked 75 who were working in that mine and five thousand must wear the brand

of Cain because of the cowardly murders.

We have no defense for the crime of lynching but the Illinois Congressman who has been cursing the South because a few negroes are lynched because of crimes against white women, have in their own yard the bloody bodies of more than fifty men who were brutally lynched after they had surrendered to a mob of five thousand men and women who sought to stop them from working.

The young woman with the child in her arms said she would see the wounded man in hell, and while she may not find him there, we will not dispute the fact that she knows whither she is bound.

## Dress Manufacturing Costs.

We note the following paragraph in an account of the Dress Manufacturers Convention:

"It was also unanimously resolved that each member of the organization, in calculating his costs, shall add to the cost of the materials, finding and labor 7½ per cent to cover the expense of doing business, and that an additional 5 per cent shall be put on as the manufacturer's profit, it being contended that, as things are now, he is not making any profit."

When his wife pays \$35 for a dress made out of four yards of cloth that retails for 75 cents per yard, he can be pardoned for wondering who makes the profit if the dress manufacturer gets none.

## Average Weekly Wages.

The National Industrial Conference Board estimates average week-

ly earnings of all wage earners in manufacturing — July 1st, 1914, as \$12.40; July 1st, 1922, \$22.89; May 15th, 1922, \$21.50, or 74% above those prevailing in July 1914, which is to be taken in comparison with an advance in the cost of living of approximately 55% for the same period.

## A Contest Explanation.

We feel that we should in justice to E. R. Stall, who tied for third prize in the contest just closed, state that he was handicapped by the fact that J. E. Sirrine did not consider his article in rendering his vote as one of the judges.

Mr. Stall asked for the privilege of entering the contest and did with the understanding that Mr. Sirrine by whom he is employed could not consider his article.

L. W. Roberts, the well known mill engineer, of Atlanta, gave first position to the article by Mr. Stall and had Mr. Sirrine been privileged to consider the Stall article on its merits it is entirely possible that Mr. Stall would have either tied or won first prize.

We feel Mr. Stall is due this explanation.

## Weavers' Division to Meet at Anderson, S. C.

It has been decided to hold a meeting of the Weavers' Division of the Southern Textile Association at Anderson, S. C., on July 21st.

There will be a morning session at 10 o'clock, a lunch at 12:30 p. m. and an afternoon session which will permit those attending to leave about 4 p. m.

W. H. Gibson, Jr., of Union, S. C., chairman of the Weavers' Division will preside over the meetings, assisted by F. Gordon Cobb, general chairman of division committees.

As is customary all division meetings there will be no addresses or papers but the entire time will be devoted to the discussion of slasher room and weave room problems.

Those who attended former meetings of the Weavers' Division know that every minute of the time has been taken up with interesting discussions and we know that the Anderson meeting is going to be well attended.

## Saco-Lowell Shops to Enlarge.

Lowell, Mass.—Due to expansion in the manufacture of several new types of textile machinery, the Saco-Lowell Shops here are planning to erect in the near future a number of new buildings. The site for the buildings is a large tract adjacent to the present plant, now occupied by dwellings. Already offices of the Saco concern have petitioned the city government for

permission to close a number of streets involved in the project.

In an interview with Superintendent H. Hoeber, The Journal of Commerce representative was informed that the most important factor in moving the Saco concern to expand was the development on a large scale of the manufacture of new types of textile machinery. For example, the Saco shops have recently started to make by a machine process a new line of cotton flyers of a type hitherto made only in England, and there by hand. Other manufacturing innovations are a complete line of French worsted machines, up to the present time made only in France and a new thread board.

It is understood that the reception accorded these new lines, both at home and abroad, has much to do with the optimism of the Saco-Lowell officials. Incidentally, Mr. Hoeber reports a brisk export business in most lines manufactured by his plant.

## Inspection Certificate.

Certain railroads are now requesting the mills or their shipping representative to sign inspection certificates at the time cars are loaded on the mill premises. The Traffic Department of the American Cotton Manufacturers Association has expressed the following points on the subject:

"A common carrier is bound to furnish shippers suitable safe and secure cars in which to ship their property in and is liable for any failure to provide proper cars. Being unable no duty to make an inspection, a shipper is under no duty to sign any certificate showing that the car was suitable for shipment. Such a certificate should not be signed because after signing the mills might be stopped or prohibited from showing a car was defective, should damages to shipment occur.

Shippers are not expert car inspectors and might consider a car O. K., when, in fact, it is not suitable as facts might later show.

No reason appears why shippers should sign these certificates and thereby make a possible admission against their own interests. On the contrary, it is to the shipper's interest to hold the carriers to their unqualified insurers' liability.

Notwithstanding this opinion, we feel that the mills should cooperate fully in loading only cars that are suitable; removing protruding nails, covering bolt heads and protecting goods from dirty floors and walls."

## British Cotton Goods.

Indication sare that there is a possibility of Lancashire losing a very valuable part of its trade, namely, in prints and dyed goods, due to high finishing charges, says Consul Holaday, Manchester, reporting to the Department of Commerce. The recovery in British cotton goods exports evidenced during the current year has been in gray yarns and gray cloths. Switzerland and Germany as well as Far Eastern countries are buying very large quantities of gray goods.



## Personal News

W. H. Tisdale has been appointed superintendent of the Couch Mills, East Point, Ga.

Robert Toney has resigned as overseer of carding at the Scottdale Mills, Scottdale, Ga.

J. N. Pharr has become overseer of carding at the Scottdale Mills, Scottdale, Ga.

E. T. Swords has resigned as overseer of twisting at the Bibb Mfg. Company, Columbus, Ga.

Oscar Earle has been promoted to card grinder at the Armstrong Mills, Gastonia, N. C.

Robert Chapman has resigned as president of the Icemorlee Mills, Monroe, N. C.

Charles Iceman has been elected president of the Icemorlee Mills, Monroe, N. C.

J. P. Eller has resigned as overseer of weaving at the Alta Vista Cotton Mills, Alta Vista, Va.

J. H. Arrington has become overseer of spinning at the Laurel Mills, Laurel, Miss.

H. L. Dearman will have charge of carding at Standard Cotton Mills, Monroe, N. C.

W. D. Ellis has been promoted to assistant superintendent of the Valley Waste Mills, LaGrange, Ga.

M. A. Crolley has resigned as overseer of carding at the Darlington (S. C.) Manufacturing Company.

H. L. Morgain has become overseer of carding and spinning at the Selma Manufacturing Company, Selma, Ala.

B. F. Barnes, of Greenville, S. C., has accepted the position of superintendent of the Jonesboro Yarn Mills, Jonesboro, Tenn.

J. W. Stafford, of Greensboro, N. C., has accepted position of spinner at Standard Cotton Mills, Monroe, N. C.

W. M. Knight has resigned as overseer of spinning at the Ronda Cotton Mills, Ronda, N. C., to accept a similar position at the Edna Mills, Reidsville, N. C.

C. H. Goodroe has resigned as superintendent at the Magnolia Textile Corporation, Moorhead, Miss., and accepted a similar position at the Standard Mills, Monroe, N. C.

L. W. Kirkman, formerly of Rhodhiss, N. C., later from Moorhead, Miss., has accepted position of weaver at Standard Cotton Mills, Monroe, N. C.

Otis Barnes, superintendent of the Rushton Mills, Griffin, Ga., recently underwent an operation at the Davis-Fisher Sanatorium, Atlanta. His many friends will be glad to know that he is rapidly recovering.

W. H. Jones, superintendent of the Valley Waste Mills, LaGrange, Ga., has been away on a business trip.

John A. Rudisill has resigned as overseer of carding and spinning at the Selma Manufacturing Company, Selma, Ala.

John Grice has resigned as second hand in the cloth room at the Dunson Mills, LaGrange, Ga., to become overseer of cloth room at the Lincoln Mills, Huntersville, Ala.

H. P. Hunt has resigned as night overseer carding at the Pomona Mills, Greensboro, N. C., and accepted a similar position at the Johnston Mills, North Charlotte, N. C.

J. S. Stroud, who recently resigned as overseer carding at the Loray Mills, Gastonia, N. C., has accepted a similar position at the Darlington (S. C.) Manufacturing Company.

J. T. Hunt has resigned his position with the Bibb Manufacturing Company, Macon, Ga., and returned to his former place as overseer of carding at the Unity Spinning Company, La Grange, Ga.

### W. H. Short Dead.

W. H. Short, of Kings Mountain, N. C., died suddenly at his home there last week. He was a Confederate Veteran and was 89 years of age.

Mr. Short is survived by four sons, all of whom are well known in mill circles. They are R. S. Short, of the Flint Mill, Gastonia; J. M. Short, of the Roanoke Mills, Roanoke Rapids, N. C.; J. A. Short, of the Mason Mills, Kings Mountain, and A. A. Short, of the Highland Park Mills, Charlotte. One daughter, Mrs. J. C. Tucker, of Sanders, Ark., also survives.

### P. A. Stough Dead.

Cornelius, N. C.—After a long illness and a much longer period of declining health, P. A. Stough, secretary and treasurer of the Cornelius Cotton Mills and a prominent citizen and real estate owner of this place passed away at his home here on Monday. The deceased was in his 47th year. His funeral will be conducted tomorrow afternoon at 4 o'clock at Mt. Zion church.

Mr. Stough is survived by his father, R. J. Stough, his wife, who was Miss Alice Ardrey of Pineville, and by three children, Mary Ardrey, Elizabeth and Alice Stough. He was a nephew of C. D. Johnson of Charlotte.

Mr. Stough's own mother, who was Miss Morlie Johnston prior to her marriage, died many years ago.

Mr. Stough was a graduate of Davidson college, being a member of the class of '96, and as a student showing fine mathematical ability. Soon after graduating he connected himself with the Cornelius mills and

was in a few years promoted to the office which he was filling at the time of his death and in the discharge of whose duties he has manifested business talent of a high order. Conservative and careful in his policies he has handled the affairs of the mill in a most efficient way and established for it a fine record. He was universally esteemed and most highly regarded not merely by officers and stockholders in the corporation but also by all the operatives.

### Textile Department of College Had Good Year.

The textile department of the North Carolina State College, which is the North Carolina Textile School, has had a very successful year's work. More students have been registered this year than in any previous year, and also a larger class has been graduated. The graduating class, which numbered twenty-four, have all been located and will work in the different mills and allied industries.

At the commencement exercises, Mr. L. W. Clark, general manager of the Carolina Cotton & Woolen Mills, Spray, presented to Mr. Wesley Irwin Pickens, of Charlotte, the

student's medal which is given annually by the National Association of Cotton Manufacturers to the student having the highest proficiency in his work. In order to obtain this medal the school must fill the following requirements: There must be a good equipment for instruction in cotton manufacturing. The instruction must be of recognized standard. There must be at least fifty students taking the textile course, and at least four competitors for the medal. The Textile Department fills all these requirements, as there were registered one hundred and seventy-five students, and a graduating class of twenty-four. This is the only textile school in the South that has been awarded the medal.

With the dissolution of the Purchasing and Selling Association of Czecho-Slovak Cotton Manufacturers, the Czecho-Slovak Government has available for sale 2,200,000 pounds of cotton yarns and about 100 bales of cotton. The association's deficit is reported as amounting to 200,000,000 crowns, says Trade Commissioner Geringer, Prague, in a report received by the textile division of the Department of Commerce.

## THE TRIPOD PAINT COMPANY

—MANUFACTURERS—

ATLANTA GEORGIA

MILL WHITES, PAINTS, STAINS, Etc.

Write for Prices and Free Samples

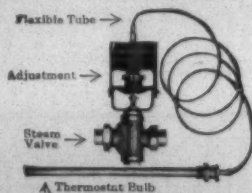
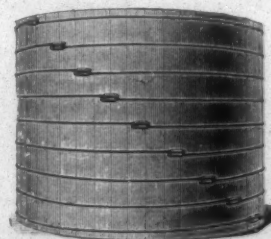


Tanks for all Purposes

Vats for DYES and SIZINGS

G. Woolford Wood Tank Mfg. Company

710 Lincoln Bldg. PHILADELPHIA, PA.



The Powers Regulator No. 11  
For Liquid Temperature Control

Especially adapted to control of dye baths, wool washers, size boxes, hot water tanks, and practically any process where liquid is to be maintained at an even temperature.

(1580-A)

## Positive Heat Control

This is to be had only by Automatic Regulation.

The Powers Automatic Heat Regulator is always on the job—always dependable. It does more than control heat, it economizes in the use of it. Write today. Learn how this is done.

**THE POWERS REGULATOR CO.**  
Specialists in Automatic Heat Control

R 984-126 East 44th St., New York  
2759 Greenview Ave., Chicago  
595 Boston Wharf Bldg., Boston  
The Canadian Powers Regulator Co., Ltd., Toronto, Ont.  
Southern Representative,  
Ira L. Griffin, Charlotte, N. C.



# MILL NEWS ITEMS OF INTEREST

**Kannapolis, N. C.**—The Cannon Manufacturing Company will erect a new postoffice building here, to cost about \$30,000.

**Lexington, N. C.**—The Erlanger Cotton Mills Company has prepared plans and is now seeking bids for the erection of a cloth storage warehouse, 68x229 feet, one-story, of standard mill construction.

**Chattanooga, Tenn.**—At the annual meeting of the Richmond Hosiery Mills all officers were re-elected for the ensuing year. May sales were reported at \$510,000. A dividend of 6 per cent was declared.

**Athens, Ala.**—The Union Thread Company has been sold to W. W. Crews and O. W. Bowens, of Jewell, Ga., the sale being handled by the C. L. Upchurch and Sons, Atlanta. The plant has 5,000 spindles.

**Greenville, S. C.**—The F. W. oPe Manufacturing Company will pay a quarterly dividend of two per cent on a capital of \$2,000,000 payable July 1, it was announced following a meeting of the board of directors.

**Millen, Ga.**—The local plant of the Western Reserve cotton mills began operation in full last week, giving employment to 300 hands. The product of the Millen plant will be square woven tire fabric and will be used to make Mason tires.

**Clover, S. C.**—The Hampshire Spinning Company of Clover was chartered by the secretary of state yesterday with a capital stock of \$1,000,000.

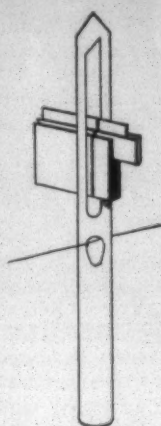
Officers are: Thomas McConnell, president; F. Coit Johnson, vice-president; M. L. Smith, treasurer; Hugh McConnell, secretary; John A. Pollard, assistant treasurer; John R. Hart, assistant secretary.

As previously reported, this new company will erect a 25,000 spindle mill here. Plans are being prepared by J. E. Sirrine and Company, of Greenville.

**Richmond, Va.**—Merger of the Industrial Cotton Mills Company, Inc., and Blue-Buckle Cotton Mills, Inc., under the name of the Industrial Cotton Mills Company, Inc., with principal offices at Richmond, was authorized today by the Virginia state corporation commission. The factories of the company will be located at Rock Hill, S. C.

The incorporators were listed as Alexander Long of Rock Hill, president; I. B. Cauthen of Rock Hill, secretary.

The maximum capital stock is to consist of \$500,000 of first preferred and \$2,400,000 of preferred. There are to be 29,000 shares of common stock without par value. Plans for the merger were ratified at a meeting of stockholders held here recently.



## THE K-A ELECTRICAL WARP STOP MOTION

### For Looms

introduced in the South one year ago. Now more than 4000 on order and in operation in North Carolina alone. Names of satisfied users furnished upon request.

### R. I. WARP STOP EQUIPMENT CO.

414 Realty Building

P. O. Box 1026

Charlotte, N. C.

S. Arleigh, Sou. Representative

Member American Society Landscape Architects

## E. S. DRAPER

CHARLOTTE

NORTH CAROLINA

### LANDSCAPE ARCHITECT and CITY PLANNER

Community and Mill Village  
Developments  
Parks, Real Estate Subdivisions  
and Cemeteries  
Resort Hotels and Country Clubs  
Private Estates and Home Grounds

Complete Topographic Surveys  
General Designs, Planting, Grading  
and Detail Plans  
Supervision of Landscape  
Construction  
Inspection and Maintenance

Largest Landscape Organization in the South

## MOTORS—on Hand

- 1—125 H. P. General Electric, 2200 volt, 600 r. p. m.
- 1—100 H. P. Westinghouse, 550 volt, 690 r. p. m.
- 1—75 H. P. General Electric, 2200 volt, 900 r. p. m.
- 1—50 H. P. General Electric, 2200 volt, 875 r. p. m.
- 1—15 H. P. General Electric, 550 volt, 1200 r. p. m.

Used, good condition.

Also Robbins & Myers new Motors, from 50 H. P. to 1-10 H. P., 220 and 550 volts.

### SOUTHERN TEXTILE MACHINERY COMPANY

Greenville, S. C.



CLEAN QUALITY

SUPERIOR SERVICE

If a drive is worth belting, it is worth belting well. Why be satisfied with a mediocre belt? Cheap belting is false economy—the safest investment in the world has always been REPUTATION.

## Charlotte Leather Belting Co.

Charlotte, N. C.

**Welford, S. C.**—Alfred Moore of Tucapau has purchased the Fort Prince Spinning Company, of this place, and the name of the mill will be changed to Jackson Mills No. 2. It will be operated as a branch of the Jackson Mills, of Iva. The mill now has 12,000 spindles and it is understood that a similar number will be added and looms also installed.

**Greenwood, S. C.**—Plans for a reorganization of the Panola Cotton Mill, of Greenwood, S. C., which for several months has been in the hands of a creditor's committee, were made at a meeting of the directors of the corporation.

Resolutions providing that the property be returned to the stockholders were adopted. If this action is not accepted, it is said the directors will recommend liquidating the affairs of the mill. If the company is reorganized, it is understood that J. P. Abney, of Greenwood, will be named president and treasurer.

**Lincolnton, N. C.**—Boger & Crawford, spinners and mercerizers, Philadelphia, are asking bids for erection of another spinning mill which will contain the same number of spindles as the present plant, the intention being to broaden the range of numbers of combed yarn. Both the spinning plant in Lincolnton and the mercerizing establishment in Philadelphia, are being operated day and night, and it is stated that the company's sales in May were the largest for any month since the Philadelphia plant was put in operation. The present plant is listed as having 11,000 ring and 6,000 twist-er spindles.

**Monroe, N. C.**—Ropt. Chapman, of Cheraw, S. C., resigned as president and director of Icemorlee and Everett cotton mills. The resignation as to the Everett Mills was not accepted by the board of directors, Mr. Chapman being requested to continue in charge. Charles Iceman was elected president of the Icemorlee Mills, his election being requested by Mr. Chapman. A new directorate was elected consisting of Charles Iceman, R. E. L. Iceman, J. L. Lee, M. K. Lee, R. A. Morrow, J. M. Belk, T. C. Lee, J. D. McRae and J. E. Ashcraft.

Mr. Iceman has again acquired a substantial block of the Icemorlee Cotton Mill stock and it is planned to put the mill in operation on full time as soon as possible, probably within the next thirty days. S. C. Stakes is secretary-treasurer.

**Little Rock, Ark.**—J. T. Wardlaw, of Lockwood, Greene & Company, has been in the State investigating mill construction prospects. At a luncheon at the Hotel Marion given by the industrial development committee of the Board of Commerce, Mr. Wardlaw declared that the



cotton mill industry is rapidly shifting from New England to the South. Pointing out that the factory payroll is the heaviest single item in textile production cost and that a sure supply of dependable labor is a prime essential, he said the lack of it is the chief cause for the dwindling of the industry in New England. As to the regions where development might take place, he said that cotton mills are not a success in cities. An establishment does better in a small town or a suburb where the workers can build up a community of their own. City labor is inclined to drift and shift, whereas the mills need a settled class of workers. In this connection, he stated that the South, so far, has not done much manufacturing of the finer grades of goods. The history of the industry elsewhere, however, has been that the start has been made with coarser grades, and then as the operatives acquired skill production has shifted gradually to the finer grades, where the profits are larger.

#### More Employees in South Carolina Mills.

South Carolina cotton mills are now working more employees than during the corresponding period of last year, according to reports of the department of agriculture, factory inspection division, for 1922 up through May. The number of employees in the mills as announced by the inspectors is 57,000 as compared with 50,276 in June, 1921.

The general condition of the mills is reported to be good, the increase in the employees indicating more work and more products turned out. This increase of 6,934 employees over last year was found despite the fact that 18 mills were closed when the inspections were made, it was announced.

The report also shows that conditions now, as regards employees, are better than in either 1919 or 1921. In 1919 the number of employees was 50,898 and in 1920 the number was 52,428.

White males employed in the mills far outnumber all others with 33,816 for 1922 as against 16,843 white females. The number of negro men was 3,264 and the number of negro women was 635. The number of white boys between the ages of 14 and 16 years was 1,193 and the number of white girls between the ages of 14 and 16 was 1,250. No negroes between the ages of 14 and 16 were employed in the mills, the report shows.

An increase in the mills of 4,796 males over last year is noted in the

report and of 1,757 females as well as 371 negro men. These increases in the number of employees, the inspectors believe, point to much better conditions in the cotton mill industry in South Carolina.

#### J. Henry Dallahan to Represent Yates Bleachery Company in the East.

J. Henry Dallahan, with headquarters at 49 Worth Street, New York, has been appointed Eastern agent for the Yates Bleachery Company, of Flintstone, Ga.

The Yates Bleachery is one of the modern new plants of the South. It is a concrete building, well located for water power at the foot of Lookout Mountain, and has been operating for one and one-half years. At present, the Yates Bleachery has a capacity of slightly in excess of 2,000,000 yards a month. Through new installations that have recently been made, this is to be increased

The scope of the work done at the Yates Bleachery has been broadened considerably, so that general bleaching for the converting trade is being turned out, including muslins, cambrics and the usual range. Heretofore, the plant had confined its finishing to bag work, and crash toweling. Arthur E. Yates, president of the company, boasts of water in his locality that is exceptionally suited for fine bleaching.

Napping is being done at the Yates plant—and mercerizing equipment will be installed before long.

Mr. Yates considers his bleachery well located for both Eastern and Western trade, being on the Nashville, Chattanooga and St. Louis, the Southern, Central Georgia and other railroads. Deliveries to New York, from the Yates bleachery are made on the sixth morning after shipment, Mr. Yates says.

Mr. Dallahan also is sales agent for the Blue Spring Dyeing & Finishing Company, Cedartown, Ga.

#### Cotton Goods Exports.

Washington. — Exports of raw and manufactured cotton last month show a considerable increase over those for May a year ago, it is indicated in figures made public today by the Bureau of Foreign and Domestic Commerce.

Raw cotton, including linters, increased in value but decreased in volume, exports in May last being 469,397 bales valued at \$45,880,111, as compared with 477,389 bales valued \$30,640,092 a year before. During the 11 months ending with May such exports were 6,050,762 bales valued \$543,867,634, which is an increase in volume, but a decrease in value as compared with the same period a year before, when exports were 4,914,512 bales valued \$569,666,749.

Total cotton cloths exported last month were 60,448,290 square yards valued \$8,369,141, bringing the total for the 11 months to 550,279,585 square yards valued \$68,478,506. Such exports in May, 1921, were 39,767,171 square yards valued \$4,829,177 and for the 11 months ended with that month in 1921 the total was 507,979,131 square yards valued \$135,885,003.

Of the cotton cloths exported last month there were 1,140,641 square yards cotton duck valued \$465,201, which is a large total for the 11 months just ended to 7,930,222 square yards valued \$2,916,418.

Other cotton cloths exported last month were: Unbleached 18,638,956 square yards valued \$2,014,423; bleached, 12,624,293 square yards valued \$1,592,206; printed, 11,021,364 square yards valued \$1,348,729; piece dyed, 9,288,893 square yards valued \$1,614,423; yarn dyed, 7,734,143 square yards valued \$1,304,159. Shortly to over 3,000,000 yards a month.

#### Cotton Hosiery Exports Increase 255 Per cent.

Washington. — The increased activity of the cotton knitting industry is reflected in the statement of the Department of Commerce today, that the exports of cotton hosiery in May were 255 per cent more in quantity than in the same month last year. This is a continuation of the upward trend which started in January and continued each month.

The exports of cotton hosiery in May were 508,800 dozen pairs, valued at \$909,600. This compares with 416,700 dozen pairs, valued at \$35,500, in April, and 191,800 dozen pairs, valued at \$433,350, in May, 1921.

**PULLEYS HANGERS**

**The WOOD Line**  
SONS CO.

CLUTCHES



**Power Saving**

is an important item in transmission machinery and a factor that has been given careful attention in the

**Universal Giant Friction Clutch**

This clutch with friction surfaces of large area, compact mechanism and unusual strength is readily applied and adjusted, gives maximum results with minimum wear and is adapted for all classes of service where a friction clutch can be used. Save power with WOOD'S Transmission Machinery.

COUPLINGS

Catalogue on request

**T. B. Wood's Sons Co.**  
CHAMBERSBURG, PA.

MILTON G. SMITH, Sou Sales Agent,  
Greenville, S. C.

**POWER TRANSMITTING MACHINERY**

### THE CHOICE OF A HUMIDIFYING SYSTEM

must be one that for simplicity with great capacity and economy in maintenance produces uniformly such conditions that may be determined for the different requirements of the work. In the American Moistening Company's method of humidifying, all such requirements are GUARANTEED.

Our COMINS SECTIONAL HUMIDIFIERS  
Our FAN TYPE and HIGH DUTY HUMIDIFIERS  
Our VENTILATING Type of Humidifier (Taking fresh air into the room from outside)  
Our ATOMIZERS or COMPRESSED AIR SYSTEM  
Our COMPRESSED AIR CLEANING SYSTEM

Our CONDITIONING ROOM EQUIPMENT  
Our AUTOMATIC HUMIDITY CONTROL (Can be applied to systems already installed)  
Our AUTOMATIC TEMPERATURE CONTROL  
Are all STANDARDS OF MODERN TEXTILE MILL EQUIPMENTS.

#### AMERICAN MOISTENING COMPANY

RUSSELL GRINNELL, President

BOSTON, MASS.

FRANK B. COMINS, General Manager

SOUTHERN OFFICE, Atlanta Trust Company Building, ATLANTA, GEORGIA



# TALLOW—OILS—GUMS—COMPOUNDS

## ALSO HOSIERY FINISHING AND BLEACHINGS

**TEXTOL, A new product especially for Print Cloths. A complete warp size, requires no addition of tallow**



Tallow, Soluble Grease, Soluble Oils, Gums, Glues, Gum Arabol, Lancashire Size, Waxes, Finishing Pastes, Soaps, Glycerine, Ready-made eavy Size, Sago and Tapioca Flours, Dextrines, China Clay, Soluble Blue Bone Grease, Bleachers' Blue.

**SPECIAL COMPOUNDS FOR WARPS, WHERE STOP MOTIONS ARE USED.**

**WEIGHTING COMPOUNDS FOR COLORED AND WHITE WARPS. FINISHING COMPOUNDS FOR ALL CLASSES OF FABRICS.**

The Arabol best grades of cotton warp sizing compounds make the "finest weaving and will hold the fly."

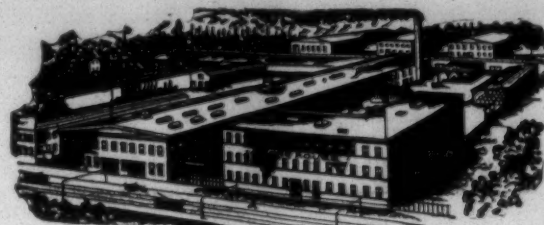
These compounds are based on the best practical experience and the best materials used in their manufacture.

## The Arabol Manufacturing Co.

Offices: 100 William Street, New York.

Southern Agent: Cameron MacRae, Concord, N. C.

R. F. GIBSON, South Carolina Agent, Greenville, S. C.



Factories: Brooklyn, N. Y.

P. D. JOHNSON Co., Ala. and Tenn. Agent, Atlanta Ga.

### Mill Syndicate Appears Certain.

While no authoritative information has been secured relative to reports which some weeks ago indicated that a group of Southern mill men and capitalists were preparing to build a chain of mills with a total of 1,000,000 spindles, persistent rumors that the big syndicate is being organized are current in Charlotte, and a number of papers in the East have been devoting considerable space to the proposed chain of mills. The Charlotte Observer carries the following relative to the organization of the company:

"That the \$50,000,000 cotton mill organization, to be headed by J. B. Duke, of which there has been many rumors lately, is to be a reality is given ground for belief through an article appearing in a recent issue of The Wall Street Journal, under a Boston date line."

"Mr. Duke's object in such an organization is thought by local people to be a desire to absorb all of the power that will be available through

the completion within the next year and a half of the two big hydro-electric plants, one at Mountain Island and the other one at Great Falls, S. C.

"While it is believed that practically all of this power will be in demand as soon as it is available this is thought by many to be the beginning of an extensive hydro-electric development in this section, as a result of which the available power may be increased to a point that will allow an undreamed-of increase in the industrial development."

"It is known that Mr. Duke had a vision years ago of making this section a duplication of the textile development centering around Fall River, Mass., and it is thought that he has had this in mind all of the time, the present industrial development in this section being a great step toward his hope about the time he started his first power development in this section, some 20 years ago."

"Mr. Duke has been interested in several textile mills developed in

sections in which hydro-electric power is available, notable among which is the Great Falls section, which has developed into a community of probably 3,000 people and several textile plants, all of which has come about since the power development there.

"While the Mountain Island dam and power plant will give about 80,000 horsepower and the additional power plant at Great Falls will give 60,000 horsepower, it is expected that this is only the beginning of the suspended program of power development."

Credence is given to the reports of the big cotton mill plan because of these conditions and the belief in trade circles in the north that all of the details have been worked out, although no official announcement has been made.

"The article appearing in The Wall Street Journal of Sunday, under a Boston date line of July 24, is as follows:

"Although trade reports have it that all the details of a \$50,000,000

southern cotton mill project have been settled by James B. Duke, the matter is in the most embryonic stage.

"The trade believes the mills which are to be built will be of 100,000 spindles each, and will be run on fine goods. It is very likely, however, that the mills will be of much smaller capacity, being planned in each instance to conform to local conditions as to labor supply, etc. Any mills which Mr. Duke constructs will benefit by getting power from the Southern Light and Power Company, which he owns; they are likely to be along the line of a small electric railroad, which he also owns. This road runs into Greenville, S. C.

"New Bedford up to the present has been able to compete in fine goods despite higher wages and other untoward conditions, principally because such goods are sold on patterns and workmanship, rather than on count and weight. But the south is learning this. The time is also coming, it is predicted, when southern fine goods will no longer be sent to New England for finishing.

### COTTON TABLE

Table to be used in connection with Government condition report to be issued 12:30 p. m. Monday, July 3, 1922.

(Issued by Rose Bros., Charlotte, N. C.)

#### TOTAL YIELD ON NUMBER OF ACRES SHOWN (In 500 lb. bales—000s omitted)

If the report is	The yield per acre will be (lbs.)	30 million acres	31 million acres	32 million acres	33 million acres	34 million acres	35 million acres
65	140.3	8,804	9,097	9,390	9,684	9,977	10,271
66	142.4	8,939	9,237	9,535	9,833	10,131	10,429
67	144.6	9,074	9,377	9,679	9,982	10,284	10,587
68	146.7	9,210	9,517	9,824	10,131	10,438	10,745
69	148.9	9,345	9,657	9,969	10,280	10,591	10,903
70	151.1	9,481	9,797	10,113	10,429	10,745	11,061
71	153.2	9,616	9,937	10,257	10,578	10,898	11,219
72	155.4	9,752	10,077	10,402	10,727	11,052	11,377
73	157.5	9,887	10,216	10,546	10,875	11,205	11,535
74	159.7	10,022	10,356	10,691	11,025	11,359	11,693
75	161.9	10,158	10,496	10,835	11,173	11,512	11,851

NOTE: These figures based on United States Department of Agriculture revised "pars" for 1922, which indicate a yield on June 25th of 215.8 lbs. per acre on 100% condition.

These figures will not hold good for succeeding condition reports.

Acres planted 1921-22 crop 31,678,000, acres picked 30,509,000. An estimate of acreage for 1922-23 will be published July 3rd.

P. H. Hanes Knitting Co.

Hanes, N. C., May 22, 1922.

Mr. David Clark,  
Charlotte, N. C.

Dear Mr. Clark:

I noticed some days ago that the abominable federal child labor law has been settled at last and declared unconstitutional. I know of no one but yourself who is responsible for and deserves credit for the vigorous prosecution of this act, which has resulted in its being "wiped" off the book. I wish to personally congratulate and thank you, and am sure this great service you have so nobly rendered is appreciated by all concerned.

Yours truly,

C. W. Parrott.

Manufacturers of Speeders, Skewers, Warp Bobbins, Filling Bobbins, Cap Spinning Bobbins, Northrop Loom Bobbins, Twister Bobbins, Twister Spools, Warper Spools, Comber Rolls, Quills, Underclearer Rolls (plain or covered).

## U S Bobbin & Shuttle Co.

57 EDDY STREET

PROVIDENCE, R. I.

### SHUTTLES

We make a specialty of Shuttles for all makes of looms, both plain and automatic. Correspondence solicited.



### Third Prize Winners in Contest.

(Continued from Page 10.)

would purchase power, using group drive throughout mill.

After the site and size had been decided I would put up a building with ample floor space to install the machinery in without crowding it. I would erect the building part two stories high and part of the building only one story high. I would use the second story for the picking and carding machinery and the first story for the spinning and weaving, installing the spinning under the card room and the weaving in the building that was only one story high. I would build of regular mill construction, as near underwriters specification as possible, installing ample fire protection.

I would have large windows and high ceilings, so ample light could be obtained at all times, in addition

I would build a monitor the entire length of the weaving in center of building. I would have installed sufficient heating system, erecting pipes overhead with all drains back to boiler room.

I would install ample humidifying system, of the water motor driven type, with automatic regulation. I would install them throughout the mill.

I would have the opening room outside of the mill building, near the cotton warehouse. I would build it of ample size to open up two days' run of cotton at a time. I would place the opener in this room and lift the cotton with air to the second story of the building, feeding direct in the hoppers of the breakers with patent automatic distributor. I would install single heater machines, 40-in. in width, using blade beaters on breaker and intermediate and carding Leater on finisher. If I were making finer than No. 20 yarn I would install three processes in picker room. I would if possible erect the cotton warehouses and opener room at the side of the mill building and bring the cotton up on the side of the building where breakers were installed.

I would install 40-in. cards, with air stripping device. I would erect the cards in line parallel with the length of the building. The speed of doffer and weight of card sliver would depend to some extent on the numbers being made, but would not card over 60 grain sliver, or run doffer over 11 r.p.m. if making No. 20 yarn.

I would install two processes of drawing on most any number of yarn, with metallic rolls. I would not run front roller over 275 r.p.m., nor install over five deliveries per frame.

If I were spinning as fine as No. 20s, I would put in three processes of roving frames. I would put in 11x5½-in. slubbers, 9x4½-in. intermediates, and 7x3½ in. speeders. Short frames cost more in the beginning but repairs are less on them and more production per spindle can be got off. The draft, twist and speed would depend on the H. R. being made. Catalogue speed can be run on roving frames that are being built now.

I would install an elevator in the

end of the building where speeders were erected, so roving could be transferred to spinning on the first floor.

I would install at least 3¼-in. gauge spinning, tape drive, filling wind and most all the extras that the builders recommend except separators. I would not draft over 7½-in. on single roving and 12-in. on double roving. I would use double roving if making finer than No. 20 yarn. With ideal conditions catalogue speed can be run on spinning frames that are now being built. The size ring would depend on the number of yarn, would not use over a 2-in. ring on No. 20 yarn. I would operate spinning with 4-frame drive, using 1,200 r.p.m. motors. I would specify sufficient size frame pulleys so motor pulleys would be of sufficient size to give ample belt contact.

I would install spoolers of 100 spindles per frame, 4x6 spools, empty bobbin conveyor, good spooler guide and tension device suitable for making good firm spool and not put extra strain on the yarn. I would consider the spooler guide very careful, would want a guide that would not scrape the yarn, but catch all gouts, slubs, or imperfections that should not go on with the yarn.

Beam warpers would be selected with accurate stop motion, positive measuring length of warps, and with device for one man to doff by.

Most any of the slashers now are satisfactory to install. I would specify the following: roller bearings, expansion press roller, insulated cylinder heads and circulating size system. I would erect the slasher room on the first floor, between the spinning room and weave room under the picker room, having large windows on each side of building to insure ample light and air in the summer time.

Weaving the important place in the mill. I would install automatic looms if goods being made was practical to weave on them. I would try to install all the looms of the same make if possible. If making goods that would require different makes of looms would specify beams of the same length and size, also try to have reed space the same so one kind of reeds and harness would be sufficient to carry in stock. If proper elevation on site could be secured would have weave room story and a half high and drive looms from underneath, as this will eliminate the dripping of oil and other substances which makes seconds, as well as being lighter and cleaner.

#### Cloth or Finishing Room.

This room should be outside of the weaving in a separate building, as much depends on the way cloth is finished and packed. If only white goods are being made, stitcher, inspector, calender folder and press is all the machinery needed.

#### Boiler Room and Shop.

I would install a boiler of ample size to furnish steam for finishing and heating mill in extreme cold weather. I would also build the machine shop in connection with the boiler room. Would

install such machines as would be needed in making repairs and would see that large doors were provided for in the beginning so that material of extreme lengths and sizes could be readily taken in the shop.

#### The Mill Village.

This is a part that should be considered well, as the class and contentment of the operatives determines to a great extent the profits of a mill. I would build substantial houses of 3, 4 and 5 rooms. I would build a number of 3-room houses, as they are in demand more now than any other size house.

In purchasing the machinery, I would purchase from one manufacturer if possible. I would install all bearings of ball or roller type on shafting. I would standardize the size of motor to 25 H. P. as much as possible. I would use slow speed would use slow speed motors, not over 1,200 r.p.m.

In conclusion I will say, if I were building a mill I would try to carry the stock in process through the mill without retracing over the same part of the building. Would also install the different machines as near and convenient to each other as practical. Some additional expense in the beginning will reduce future operating costs.

Dencot.

#### Textile Division to Enlarge Work.

Washington, D. C.—The Textile Division of the Department of Commerce is planning to considerably increase its personnel in order to render further service in the interest of the country's foreign trade in textiles, according to announcement by Edward T. Pickard, chief of the Textile Division. The expansion will be made July 1.

This expansion has been necessitated because of the increased interest shown by textile factors in exporting, as evidenced by the number of textile inquiries handled by this bureau of the Department of Commerce, which has increased from an average of 70 per week last October to approximately 1,000 per week at present. The textile division staff will now be organized complete along commodity lines.

Chief Pickard is planning an extensive trip through the cotton manufacturing centers of Europe and will be accompanied by Commercial Agent F. R. Masters, Jr., of Boston, who has recently been appointed as a specialist in cotton piece goods and hosiery. These representatives of the bureau will leave for abroad late in July and will commence their investigation in the Lanchashire district of England.

The China markets for cotton goods will be visited by another special textile representative sometime in the course of the fiscal year. Mr. Pickard is now selecting this special representative from a large field of applicants.

J. P. Morgan, of New Haven, Conn., who has had some experience along editorial and research lines, will be added to the office staff at Washington as assistants. A great deal of Mr. Morgan's time will be spent on

statistical and editorial work, and, in particular, his activities will be in connection with international cotton gray cloth price comparisons.

Warren Ulrich, of Malden, Mass., who until recently has been in the office of the textile division, has been appointed as an assistant to the trade commissioner at Mexico City. Mr. Ulrich will investigate textile conditions in the Mexican market.

Negotiations are now under way with raw cotton interests in the South for the appointment of a foreign trade special assistant who will devote his time to the solution of raw cotton export problems. This will mean the filling of a vacancy in the textile division's staff which has been felt for some time.

#### Polish Textile Wages to Increase.

Due to sharp advances in the cost of living, there has been of late considerable agitation for increased wages in Poland. The textile workers of Lodz have made a general demand for 50 per cent increase in wages and mill owners have recognized the necessity of granting some advance.

#### Bookkeeper and Stenographer.

WANTED: Positions by two business women with experience in office and social work. One bookkeeper and stenographer and other combination office and social worker. Would like position with large mill. Prefer Carolinas, Virginia or Tennessee. Address "Efficient," Care Southern Textile Bulletin.

## MI- CLEANSER

The Perfected, Non-Soluble, Cleaning, Polishing Cleansor, Deodorizing Scouring & Scrubbing Powder. "Six in One"



Trade Mark Reg. U. S. Pat. Office

Your Mill Supply House will furnish you Mi-Cleanser, or order direct from the factory.

#### Champion Chemical Co.

Charlie Nichols, General Manager  
Asheville, N. C.



**Southern Knitters Meet.**

Chattanooga, Tenn.—Adoption of the standard method of measurement for hosiery, from the point of the toe to the gore, and agreement to investigate the breaking strength and moisture content of all yarns purchased, featured a joint meeting of the Southeastern and Southwestern Divisions of Hosiery and Underwear Manufacturers on Signal Mountain.

The attendance was large and was made up mostly of members of the Southwestern division. Much organization business was transacted with Robert Davis, of W. B. Davis & Son, in the chair, in place of Frank L. Miller, the president, who has resigned because of other duties. J. M. Wilson, of the Richmond Hosiery Mills, Chattanooga, was elected president of the Southwestern Division.

Action was also unanimously taken to allow 2 per cent discount for payment within 10 days and 30 days net.

The manufacturers agreed to in-

vestigate yarns very carefully in the future. Yarn and mercerizing men present seemed to concur heartily in this action and pledged cooperation.

T. H. McKinney, of the Dixie Mercerizing Company, and others, told of what the mills are doing to keep their product within the allowed 7½ to 8 per cent moisture limit. Mr. McKinney also told of trade abuses, and urged standard moisture and standard twist.

Following a suggestion by Harold Lamb, Union Point, Ga., and a resolution by R. C. Aycock, the association went unanimously on record as opposing any movement to consolidate textile associations into one big organization embracing all lines and urging that hosiery manufacturers retain their identity and efficiency.

The delegates also agreed to make gray goods in quarter rather than in half sizes, thus making three instead of six sizes in women's and three instead of four in men's hosiery.

J. H. McCullough, consulting in-

dustrial manager for the National organization, addressed the meeting on various topics.

The hosiery men seemed optimistic, reporting most mills running at near full time, and predicting a heavy business revival in the fall, due to advancing prices. Manufacturers of this section find business rather better than the Southeastern men, it appeared.

**Swiss Cotton Manufacturing Slump.**

Swiss imports of raw cotton for the first two months of 1922 amounted to only 34,875 centners (1 centner equals 110.23 pounds, or 50 kilos), a marked slump from the imports of the corresponding months of last year, when 62,218 centners were imported. Imports of raw wool and silk, however, increased compared with 1921, and imports of cotton cloths jumped 40 per cent and cotton yarns 100 per cent, according to a report received by the textile division of the Department of Commerce from Consul General H. Murphy, Zurich.

**"Silence Is Not Golden."**

(Reprint From Textile World Journal.)

Lowell, Mass.—What is the manufacturer engaged in a wage dispute to do about the newspapers? This question, raised in a recent Textile World editorial, must, in the opinion of many disinterested observers who have been endeavoring to follow the trend of events in the current cotton manufacturing strike, be answered positively by every manufacturer who feels that he owes anything to his plant, to the textile industry and to society in general.

Whether the manufacturer agrees with this view or not, it may be worth while to trace even in a superficial manner some of the things that have happened in a certain New England city which for many weeks has been afflicted with a strike against the 20 per cent wage reduction.

The publicity phase of this particular strike area opened on the night before the wage reduction was posted in the mills. A rumor of the cut came to the office of the paper with which a textile writer was connected. He immediately got in touch with the mill agents involved and with the local officials of the United Textile Workers of America.

From the mill agents he got nothing definite. From the union officials, who incidentally had already organized a press committee, he got something very definite and straight from the shoulder, namely, that the manufacturers were endeavoring to reduce the workers to slavery, that business in the city would be ruined and that the cut would be fought to a finish.

Thus at the very beginning, the manufacturers were "in wrong" with the public. Next morning, the average citizen laid down his paper and said to his neighbor, "Aha! The bosses are trying to put something over on the workers in the mills." The business man at the luncheon of his boosting organization rose to "view with alarm, the sinister hand of the mills which is reaching out to throttle local business."

Further narration of the comparative publicity policies of labor union and manufacturer in this particular strike area is unnecessary since they have varied very little from the precedent established at the very beginning of the trouble. The union officials have always been ready to receive the newspapermen and tell them all they knew (in a great many more cases than they knew) while the mill agents have either maintained a strict silence or have been positively abusive.

Now no searching analysis of this situation is necessary to show that one of the chief effects of the manufacturers' policy has been that the hold of the professional labor leader has been tightened upon the worker to such a pernicious degree that the opposition to the wage reduction has been prolonged to an extent out of all proportion to the issue involved. The fact remains that among the rank and file of the workers the belief now prevails

## YARN CONDITIONING ROOMS —SERVICE and EFFICIENCY

**Y**ARN Conditioning Rooms to render SERVICE and EFFICIENCY should be so constructed that the air will circulate with sufficient rapidity to obtain maximum regain, at the same time prevent Dry Air Pockets Forming Around the Yarn.

Greater circulation than this means extra operating expense. It costs money to move air.

### With BAHNSON DESIGNED Conditioning Rooms

one-fourth horse power for each 4,000 lbs., daily capacity, is all that is Required.

—and you have no WET SLOPPY FLOORS, because BAHNSON HUMIDIFIERS put MOISTURE into the YARNS, not on the floor.

Why not let our SERVICE DEPARTMENT make a SURVEY of your CONDITIONING PROBLEMS? Others Have, with Profit.

Our Literature Explains more fully—Like to Have It?

## THE BAHNSON COMPANY

HUMIDIFICATION ENGINEERS

General Office and Factory  
WINSTON-SALEM, N. C.

Eastern Office  
437 5th Ave. at 39th St.  
NEW YORK CITY



more than ever that the manufacturer is their natural enemy and that by hindering him in every way possible are the best interests of the operative advanced.

Moreover another factor, and perhaps a more important one in delaying a strike settlement, has been the result of the manufacturers' silence upon public opinion. As suggested earlier, the man in the street, from the very beginning, got the idea that in this case the operative is the underdog, and the business man got the idea that if the strikers lose their case business will be ruined. The direct effect of both these views has been an unwonted generosity in donating to the flood of "tag days" which the labor leaders have been conducting and so giving to the operatives the false impression that they can continue to oppose the wage reduction indefinitely.

It appears, therefore, that in some cases "silence is not golden." Publicity must be met with publicity and somehow or other the facts in the case must be got to the operatives and general public through the press. The question is how to do it. As all manufacturers know, many of them from bitter experience, the average newspaper reporter is not to be entrusted with statements on such technical matters as manufacturing costs. It is not that the reporter is dishonest. The trouble lies in his ignorance. Only to often he misunderstands the statements of mill agents and when the matter appears in the paper its badly garbled form gives rise to those interminable arguments which are "meat" for the professional labor leader.

A specific instance of this difficulty occurred within the last few months in the affair at Lawrence. There the mill officials adopted in the beginning a frank publicity policy. However, some of the accounts were garbled and the case for a 20 per cent reduction finally emerged in the worst possible light.

Despite this setback, however, the manufacturers there have not been discouraged. They have not said, "Let the public go hang." Instead, after studying many plans, they have engaged a publicist who will devote his entire time to setting the facts before the public in a non-technical, readable, but correct manner. He will do it through the medium of the newspapers, of course, but he will see to it that his matter is not garbled. As a solution of the manufacturers' publicity problem this plan appears to be excellent. Its effect in the situation at Lawrence will bear watching.

#### Mill Men Asked to Help in Labor Test.

Washington.—The American Cotton Manufacturers' Association and

## PATENTS

### Trade Marks and Copyrights

Difficult and rejected cases specially solicited. No misleading inducements made to secure business. Over thirty years active practice. Experienced, personal, conscientious service.

Write for terms. Address

**SIGGERS & SIGGERS**  
Patent Lawyers  
Suite 34 N. U. Washington, D. C.

### WELL DRILLING AND DEEP WELL PUMPS

We do the engineering, and have had 32 years experience solving water problems satisfactorily for textile mills.

Sydnor Pump & Well Co., Inc.  
Richmond, Va.

### COMPLETE DYEHOUSE EQUIPMENT

Special Machinery for  
Textile Mills  
The Klauder-Weldon Dyeing  
Machine Co.  
Bethayres, Pa.

### Joseph L. Davidson Co.

Established 1889

Designing Card Stamping Repeating  
FOR ALL TEXTILE FABRICS

2525 N. Second St., Philadelphia, Pa.

### BURNED OUT!

Motors, Generators, Armatures, and Transformers, Rewound and Rebuilt.

Specialty Cotton Mill Work  
Open Day and Night

### Standard Electric Company

1821 East Main St., Richmond, Va.

### W I L T S

Veneer Packing Cases  
are lighter and stronger

Here are perfect 3-ply Veneer Packing Case Shooks. Their extreme lightness saves 20 to 80 lbs. in freight on every case shipped. They are stronger than inch boards, burglar proof, waterproof and clean—no cracks for dirt to sift through.

Write For Prices and Samples  
Our Prices are Convincing  
Our Service is Quick

Wilts Veneer Co., Richmond, Va.

the National Association of Cotton Manufacturers have been invited by the national committee for efficiency in production to cooperate in the economic survey of comparative efficiency in cotton textile mills in the North and South.

Ethelbert Stuart, director of the bureau of labor statistics, of the U. S. Department of Labor, chairman of the committee which was formed at the instance of Roger Babson, statistician and economist, announced today that before work is begun in the survey of cotton mills the advice and experience of the trade is desired.

It is hoped that the actual investigation may be begun by the bureau of labor statistics with the cooperation of the national committee in the cotton textile industry early

in July. Preliminary questionnaires have already been drawn up but the American and National Associations will be consulted before they are sent out.

In addition to survey by questionnaire agents of the bureau will investigate various mills in both Northern and Southern States to ascertain the comparative efficiency. The naming of mills to be surveyed will be agreed upon after consultation with the cotton manufacturers' associations.

The two associations have been asked by the bureau to name three men each to act as an advisory committee to the national committee and to the bureau of labor statistics in the conduct of the investigation, and work on the survey is awaiting these nominations.



### Cocker Machine and Foundry Company Gastonia, N. C.

#### BUILDERS OF TEXTILE MACHINERY

Linking Warpers Linkers Balling Warpers Balling Attachments  
Section Beam Warpers Long Chain Beamers Short Chain Beamers  
Warp Splitting Machines Warp Dyeing Machines Warp Doublers  
and Splitters Warp Coilers Boiling Out Boxes and Warp Washing  
Machines Dye House Ballers.

Manufacturers Should Look Up the Advantages of

## Metallic Drawing Roll

Over the leather system before placing orders for new machinery, or if contemplating an increase in production, have them applied to their old machinery. It is applied successfully to the following carding room machinery:

Railways	Detaching Roll for Combers
Sliver Lap Machines	Drawing Frames
Ribbon Lap Machines	Slubbers
Comber Draw Boxes	Intermediate Frames

25 TO 33 PER CENT. MORE PRODUCTION  
GUARANTEED

For Prices and Circular Write to

**The Metallic Drawing Roll Co.**  
INDIAN ORCHARD, MASS.

## Spartan Sizing Compound Co.

WITHERPSOON & WITHERSPOON, SPARTANBURG, S. C.

Manufacturers of

Spartan Compounds,  
Tallows and Gums



# High Grade—

# REEDS

*Satisfaction Guaranteed*

WIRE that RUSH ORDER collect  
Quick Deliveries!

## LOOM REEDS FOR ALL PURPOSES

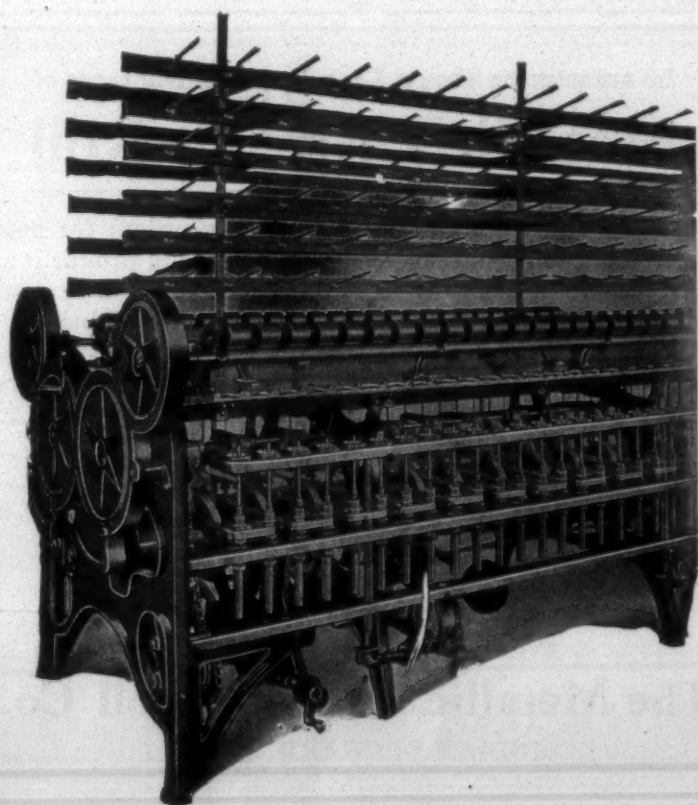
Fan Reeds  
Leno Reeds  
Leice Reeds  
Soldered Reeds

Cross Dent Reeds  
Scotch Hook Reeds  
Fancy Reeds of  
Every Description

Trouble with Damaged Shuttles, "Reedy" Cloth or Excessive Warp Breakage may be reduced to the minimum if not entirely done away with through the use of

## QUALITY REEDS

North Carolina Reed Company  
HIGH POINT, N. C.



TAPE-DRIVEN TWISTERS

Save 50 per cent. operative power  
Produce more even yarn

COLLINS BROTHERS MACHINE COMPANY, Pawtucket, R. I.

A. B. CARTER, Southern Representative, Gastonia, N.C.

## Yarn Defects.

(Continued from Page 3 )

that one finds, particularly in yarns sent out in the following certain forms:

### Cops and Cheeses.

The systems chiefly used for dyeing cops and cheeses are two in number—the first, pack system, and, second, the perforated tube system, and both are dependent for successful results on forcing various liquors evenly through every portion of the package; the second system is most largely used.

The first essential, then, of any package of yarn to be used for dyeing is that it must be of even tension throughout, in order that the liquor shall perform its functions satisfactorily.

The faults commonly found in cops and cheeses are chiefly the following:

Wound too tightly, either throughout the cop, in which case the liquor cannot be forced through, or too tight on the outside of the cop, with the result that the inner layers take up this form, and consequently the greater portion of the dye liquor never goes through the outside layers at all, and the inside darker than the outside.

Soft-nosed cops are another form of this defect of irregular tensioning, when we get the nose dyed a darker shade than the body of the cop.

A very serious fault which I recently came across in cops was one where the cops were built up on perforated but non-absorbent tubes, and in consequence the base of the cop was imperfectly dyed.

These cops were dyed black, and owing to pressure of time had to be put in the looms instead of waiting for replacement, with the result that many thousands of yards of cloth were finally rejected, and a loss of several thousands of pounds was incurred.

It is quite a simple matter to test whether the tubes supplied are absorbent or not by putting one in an inkwell; if soaked up after a few minutes' immersion they are all right. In the case just mentioned the tubes were almost liquor proof.

The commonest defect in cops, is, however, caused by careless handling and packing, and the percentage of cops unsuitable for dyeing owing to being broken and damaged is far higher than it need be (as well as the loom waste being excessive).

### Beams.

Beam dyeing is in its infancy in this country, though comparatively general in Holland, Belgium, Germany, and the U. S. A.

On the Continent beaming machinery is receiving great attention, as the essence of successful beam dyeing is a perfectly evenly tensioned beam.

Very few beam dyers in this country will dye beams direct from the spinner (who puts the yarn on the dyers' perforated beam tubes). I believe most of the others re-beam before dyeing both with the object of traversing the threads and also for equalizing their tension.

Faults in beams for dyeing and

bleaching and sizing are, therefore, matters for the future, and we will pass on to

### Ball and Cheese Warps.

The colored trade in the Lancashire district takes a large bulk of its warp yarn in the form of dyed and sized warps, and faults are like snowballs rolled down hills; they may have reached enormous proportions by the time they are finished with.

### Variation in Length.

The warp dyer frequently finds considerable variation in length when running warps or cheese of nominally the same particulars, which means considerable waste when making the loom beams.

Tight leases are an occasional fault which often leads to imperfect penetration of dye.

### Ends Running Out.

Apart from dressing troubles, loose ends are always dangerous to the dyer, owing to the possibility of wrapping round a roller, in a fast-running dye machine, and causing the breakage of more ends, or even the warp, or a stand mark on the warp (which may be folded as many as 16 times) in order to clear the roller.

Just let us see what this may mean. A 5,000-yd. chain warp folded eight times stops in the machine (i. e., eight times on the warp we have a stand mark, each of which may result in 20 yds. of cloth being spoiled). Each time it occurs we have a dark patch of 20 yards in length, so that we may have 160 yards of cloth unmarketable as perfect, and this all caused by careless warping.

Wrong end of ball warp being ticketed for running is also a fault which can quite conceivably result in a warp being so badly damaged as to necessitate replacement.

### Endy Warps.

A number of the ends in a warp being much slacker than the remainder.

Rubbed and broken warps together with endy warps, the cause of probably 95 per cent of the preventable damage which the warp dyers is troubled with.

The spinner of twist yarn frequently gets a note from a dyer to say that a warp of certain particulars was broken when received, or less frequently to say that such and such a warp was badly rubbed.

The spinners probably think that the dyer is unnecessarily fussy in worrying about a few ends, more particularly as he rarely gets a manufacturer's debit for any serious damage.

This is due to the fact that when a warp is known to be damaged all possible precautions to prevent further damage being caused are taken, but when handling possibly hundreds a day many are missed, and without precautions what may happen.

The rubbed ends part under the strain in the machines, and cause serious damage which the manufacturer charges up as dyer's damages.

A very large proportion of warps damaged by being rubbed are easily preventable.



### Majorities and Truths.

(Continued from Page 5)

gentsia of textile communities have brought on a great deal of suffering among many fine operative families.

It is just as true to-day as it was six months ago that mills located in one State or one section of the United States cannot compete successfully with mills located under more favorable conditions when their products are sold in a common market uninfluenced save by the ordinary processes of supply and demand for merchandise.

Mills cannot run 48 or 44 hours weekly in one place while mills elsewhere are permitted to run from 55 to 60 hours weekly. The handicap may not be in the actual ratio of the difference in hours, but it is there all the time. Supplement this with further restrictions of legislation and taxation such as those obtaining in New England and New Jersey mill centers compared with Pennsylvania, the South or elsewhere, and industries will languish and operatives will suffer. Those are the facts of the textile strikes, and mill managers offered rational ways of meeting them for the time being.

### Pride of People.

As the strikes have gone on the pride of many people became involved. Labor leaders who promised aid and did not give it must be coddled because people will continue to maintain the form of unionism after union methods have become wholly anathema to them. The clergymen and other leaders of thought in communities, having judged and spoken contrary to the facts, must not be hurt in their pride lest majorities may turn away from them. The political and social workers who thrive on the adulation of majorities must not be told the facts of their true status in an American community lest there be danger of lessening the respect for "authority."

In one mill in Rhode Island where a body of union workers returned as a unit to their regular employment under the conditions offered by the mill managers five months ago, were represented in union statements as having secured concessions that were never given and never thought of by mill managers. The newspapers gave currency to the union statements under large headlines and where denials appeared at all they were minimized. The pride of the union leaders could not be hurt.

So far as may be inferred from personal contact with many mill managers in New England, they have no pride any more. They buried it after the first four weeks of the troubles. They found themselves as Ishmaelites in the communities where many of them had risen through industry to be looked upon as enterprising and progressive citizens. More than one of them had to be given persistent individual police protection. Instead of men of average pride in their accomplishments they have been forced to become fighting men. The moral leaders having turned cowardly in their communities, not being willing to learn and speak of the truth, these

few business leaders have tried to protect their properties as idle units and have sat watching human nature take its course.

### Southerners Keen Students.

One of the vivid sidelights on the New England strikes, and one from which the trade is certain to find facts for discussion later on, is the sharp interest Southern manufacturers have taken in the social and political developments. It was natural to expect that they would take full advantage of any trade opportunities coming to them from the idleness of the New England mills. It was not expected that it would lead to a new conception on the part of Southern mill men of the remarkable asset they have in the homogeneous working population that came from the mountain farms to expand ultimately into the most wonderful and highly intelligent textile communities in the world. Anyone who places a different appraisal on Southern mill workers is lacking in knowledge of the facts.

A month or more ago in this journal a statement was made by a leading Southern mill man to the effect that he hoped that further expansion of the mill business in his section would not be accompanied by the social and political changes that have come about in New England. A few days ago one of the soundest thinkers among all the manufacturers of the South voiced a somewhat similar opinion in talking of mill matters before a body of Southern mill superintendents and overseers. These are only typical instances of what many younger Southern men in the dry goods markets have been talking about for some weeks.

The South will welcome capital and a further growth of its textile industry. But out of the New England troubles it has learned one great lesson. Those who are best equipped to advise workers are those who employ them and give them an opportunity for development. Co-operation brought about through common needs will bring more happiness than the sort of co-operation represented by the distributors of false ideas of industrial rights and duties, whether they happen to be clergymen, social workers or trades union leaders.

### More Active Spindles in May.

Washington.—Cotton spinning activity showed a slight increase in May as compared with April, the average number of spindles operated being 32,526,674, as compared with 30,924,094 the previous month, the census bureau announces. The aggregate number of active spindle hours reported for the month of May was 7,493,491,601, as compared with 6,635,666,969 in April.

There were 36,884,133 cotton spindles in place on May 31, of which 31,653,061 were operated at some time during the month, as compared with 31,389,256 for April and 31,874,46 in March. Based on an activity of 26 1-2 days, allowance being made for Memorial day in some some localities, for 8.7 hours per day, the average number of spindles operated at 88.1 per cent capacity single shift basis.

## The Liberty Knotter



Price \$12.50

is absolutely the most simple, the most economical and will last longer, if properly handled, than any Knotter that has ever been offered the textile trade.

GUARANTEED FOR ONE YEAR

Manufactured and Sold by

Mill Devices Co.

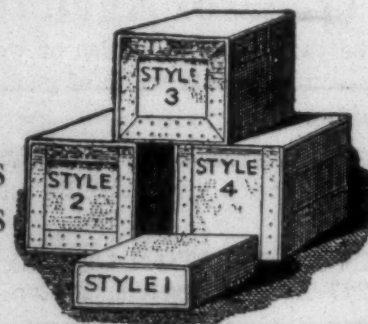
Durham, N. C.

## Your Sales Improve

When you can assure your customers of better packing as they know that you not only strive to protect their goods, but their appearance and salability as well.

The only way to render this SERVICE is by packing your goods in

Hutton & Bourbonnais Company's



Wood Packing Cases

made from best North Carolina Pine, Poplar, Oak and Chestnut. They are guaranteed to stand up under rough usage.

OUR SERVICE DEPARTMENT IS AT YOUR COMMAND

Hutton & Bourbonnais Co.

Manufacturers of  
WOOD PACKING CASES

Hickory

Drawer 330

North Carolina



D. H. Mauney, Pres. Phil S. Steel, Vice-Pres. Frank W. Felsburg, 2nd V.-Pres.  
J. S. P. Carpenter, Treasurer D. A. Rudisill, Secretary

## Mauney-Steel Company COTTON YARNS

DIRECT FROM SPINNERS TO CONSUMER  
237 Chestnut Street Philadelphia, Pa.  
Eastern Office, 336 Grosvenor Bldg., Providence, R. I.  
Southern Office: Cherryville, N. C.

MILLS DESIRING DIRECT REPRESENTATION AND HAVE THEIR  
PRODUCT SOLD UNDER THEIR OWN MILL NAME WILL  
PLEASE COMMUNICATE.

## CATLIN & COMPANY

NEW YORK BOSTON PHILADELPHIA CHICAGO

### Commission Merchants

Cotton Piece Goods and Cotton Yarns

SOUTHERN OFFICE

903 Commercial Bank Bldg. CHARLOTTE, N. C.

## RIDLEY WATTS & Co.

COMMISSION MERCHANTS

44-46 Leonard Street NEW YORK CITY

### Branch Offices

Chicago St. Louis Philadelphia Baltimore Boston

## WENTWORTH Double Duty Travelers

Last Longer, Make Stronger Yarn, Run Clear, Preserve the  
SPINNING RING. The greatest improvement entering the  
Spinning room since the advent of the HIGH SPEED SPINDLE.  
Manufactured only by the

**National Ring Traveler Company**  
Providence, R. I.

## Gum Tragasol Agglutinates

the fibres of the yarn—cotton, woolen or worsted which-  
ever it may be—and prevents waste of good materials by  
eliminating flyings.

### Gum Tragasol is Cheaper

than either wool or cotton, therefore, its use is a distinct  
economy.

**JOHN P. MARSTON COMPANY**  
247 Atlantic Avenue, Boston

## M E R R O W I N G

Established 1838

FOR—

Stocking Welting  
Toe Closing  
Mock Seaming

Maximum Production  
Minimum Cost of Upkeep  
Unexcelled Quality of Work

**THE MERROW MACHINE COMPANY**

20 Laurel Street, Hartford, Conn.

## The Yarn Market

Philadelphia, Pa. — Yarn prices were again advanced during the week. Practically all spinners of Southern carded yarns advanced prices one cent a pound. The prices of these yarns in general, as quoted by spinners, are now equally as high as during the sharp advance last September and October and in some cases the new prices are even higher. Many prices received in this market are from 1 to 3 cents higher than the market quotations published as representing the Philadelphia market.

Spinners have secured a considerable amount of business in weaving yarns for July and August delivery and accordingly they are very firm on their new asking prices. Buying was not very active as the week closed, but spinners secured enough business while the advance was one to put them in a strong position for the next two months, where weaving yarns are concerned. While many spinners still have low priced orders to fill, it is thought they had low cotton on hand beyond what they would acutely need to make these yarns under contract. The strength of the cotton market has been the moving factor in getting yarns up. While buyers are slow to pay the higher prices, spinners realize that their real problem is to meet the higher prices they must pay for raw material and at the same time meet the price views of the yarn buyers.

A fair volume of inquiry was noted during the week, most of it covering deliveries for the next thirty to sixty days. As a whole, the demand for yarns generally appears to be nearer normal than has been the case for some time. Prices continue to show considerable variation, and it is hard to cite quotations that actually represent market conditions.

Prices in this market were quoted as follows:

Southern Two-Ply Chain Warps, Etc.		
10s	to 14s	35 1/2 @ 36 1/2
2-ply 16s		38 @
2-ply 20s		40 @
2-ply 24s		41 @
2-ply 26s		42 @
2-ply 30s		45 @ 46
2-ply 40s		59 @ 61
2-ply 50s		73 @
Southern Two-Ply Skeins.		
5s	to 10s	34 @
10s	to 12s	35 @ 36
14s		37 @
16s		39 @
20s		42 @
26s		43 @
30s		45 @
36s		55 @
40s		58 @ 59
Eastern Carded Peeler Thread Twist Skeins.		
20s	2-ply	42 @
22s	2-ply	43 @
24s	2-ply	46 @
30s	2-ply	51 @
36s	2-ply	54 @
40s	2-ply	61 @
45s	2-ply	66 @
50s	2-ply	79 @
Eastern Carded Cones.		
10s		36 @
12s		36 1/2 @
14s		37 @
16s		39 @
20s		41 @
22s		42 @
26s		43 @
28s		45 @
30s		47 @

40s extra	65 @ 66
50s	73 @ 76
60s	82 @
Carpet—	
8s, 3, 4 and 2-ply	31 @
8s, 3, 4 and 5-ply	31 @
Tinged Insulating Yarns.	
6s, 1-ply	29 @ 40
8s, 2, 3 and 4-ply	31 @ 33
10s, 1-ply and 2-ply	33 @
12s, 2-ply	33 1/2 @
20s, 2-ply	37 @
30s, 2-ply	41 @

Duck Yarns.	
3, 4 and 5-ply—	34 @
8s	35 @
10s	38 @ 39
16s	40 @
20s	40 @

Southern Single Chain Warps.	
to 10s	36 @
12s	36 1/2 @
14s	39 @
16s	40 @
20s	41 @
22s	41 @
24s	42 @
26s	46 @
30s	59 @ 61
Southern Single Skeins.	
6s	34 @
10s	35 @
12s	36 @
14s	36 1/2 @
16s	39 @
20s	40 @
22s	40 1/2 @
24s	41 @
26s	42 @
30s	46 @

Southern Frame Cones.	
8s	34 @
10s	35 @
12s	35 1/2 @
14s	36 @
16s	36 1/2 @
18s	37 @
20s	37 1/2 @
22s	39 @
24s	39 1/2 @
26s	41 @
30s	44 @
30s double carded	47 @ 50
30s tying in	41 1/2 @
40s	59 @

Southern Combed Peeler Skeins, Etc.	
2-ply 30s	68 @
2-ply 36s	76 @
2-ply 40s	78 @
2-ply 50s	86 @
2-ply 60s	1 00 @
2-ply 70s	1 05 @
2-ply 80s	1 21 @
Combed Peeler Cones.	
10s	44 1/2 @
12s	45 @
14s	45 1/2 @
16s	46 @
18s	48 @
22s	49 @
24s	50 @
26s	51 @
28s	53 @
30s	59 @
32s	60 1/2 @
34s	65 @
40s	70 @
50s	80 @
60s	91 @

## Paulson, Linkroum & Co., Inc.

52 Leonard Street, NEW YORK CITY, U. S. A.

Philadelphia Providence Chicago Charlotte

### COTTON YARNS

OF EVERY DESCRIPTION FOR

WEAVING AND KNITTING

We Specialize In Cotton Yarn For Export



## Cotton Goods

New York.—Trading in cotton first hands. Bleached cottons are goods was more active during the week, this being especially true of the business done in the unfinished lines. Further progress has been made in the movement to advance prices on finished goods in keeping with the rise in raw cotton. Some of the standard brown sheetings have been advanced one cent a yard and denims have moved up a half cent. On cotton duck, discounts have been shortened and bleached cottons have moved up. Business in printed draperies and percales has been fairly steady.

The greater part of last week's business was in the primary division of the market. Jobbers and retailers are moving very cautiously and taking only what goods they will need for a few weeks ahead.

Heavier lines of cotton goods are firmer and many brown sheetings are being advanced. New lists will be issued this week by some of the large commission houses. Wide goods, made on 60-inch looms are firmer and in stronger demand than for a long time past, such cloths as wide drills, sateens, and specially fabrics for the leatherizing and rubberizing trade being better conditioned as to sales than for two years.

Print cloths were quieter with most sellers holding firm at 8½c for late deliveries. It was said that small lots might be picked up from second hands at 8 1-2 cents, but most mill agencies are not offering spots. Odd counts were more active. Sales of late deliveries of 8.20 goods were made at 6c, while spots may be had at 1-8c less. For 60x48s, 7 5-8c is now asked. For 27-inch 9.50 goods 4 5-8c has been paid. Sales in this market and at Fall River this week ran in excess of production.

Sheetings are higher. For 3-yard goods many houses now refuse bids under 11 1-2c and have declined China business below that figure. Some inferior goods may be had at lower figures for home converting, but some houses ask 12c. On 4.70s, some houses now ask 10c, and 7 5-8c was paid yesterday for 5.50s. For 41-yard 48 squares, 37-inch goods, buyers have paid 9 5-8c, and 7c is now firmly quoted on 6.15s. Fine combed dyarn goods are showing a moderate and steady improvement. Some mills will still trade at low prices on stock goods, but are very firm on contracts. Pajama checks have been bought at 10 1-4c for late delivery.

Cotton domestics are stiffening in secondary channels as well as in

being advanced, and some of the sheeting lines are not available at the low prices current last week. Denims and tickings are higher, and cheviots and chambrays are not being offered so freely at concessions from the general market level. The heavy brown cottons are decidedly firm owing to the sharp rise that has been going on steadily as stocks in first hands have been dissipated.

The tendency of the moment in the retail trade is to resist advances. As many wash goods and seasonable silk and worsted dress fabrics are still to be had from secondary sources at inviting figures, measured by what mills are doing, the retailers can afford to talk much of lower prices at this season.

For 68x56, 11.00 yard organdie, 10 7-8 cents has been paid. Other goods had been reported at one-eighth less.

In combed lawns, there has been trading in 76x72s, 40-inch, 9.00 yard, at 12 3-4 cents; in 40-inch, 96x92, 7.50 yard, at 16 1-2 cents; in 40-inch, 96x100, 7.00 yard, at 17 1-2 cents.

Good business in 37 1-2-inch, 96x40, two-ply and single combed poplins, at 26 cents, has been reported.

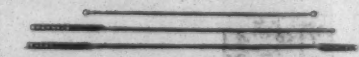
In 39-inch, 88x140, 5.10 yard sateens, trading at 23 cents was put through.

Prices were quoted as follows:  
 Print cloths, 28-in. 64x64s..... 7  
 Print cloths, 28-in. 64x60s..... 6½  
 Print cloths, 28-in. 64x60s..... 6½  
 Gray goods, 38 1-2 in., 64x64s.. 8½  
 Gray goods, 39-in., 68x72s.... 9½  
 Gray goods, 38-in., 80x80s..... 12  
 Brown sheetings, 3-yard..... 12  
 Brown sheetings, 4-yard..... 10½  
 Brown sheetings, So. Std..... 13  
 Denims, 2.20..... 17½@18  
 Staple gingham..... 16½  
 Dress gingham..... 20@22½  
 Standard prints..... 10½  
 Kid finished cambrics..... 8½@9½

### Improved Dobby Chain



### Dobby Cords



Rice Dobby Chain Co.  
 Millbury, Mass.

Send Us Your Order To-day



The Standard of Excellence for  
 Electrical Installations  
 IN TEXTILE MILLS AND  
 VILLAGES

HUNTINGTON & GUERRY, Inc.  
 GREENVILLE, S. C.

## UNIVERSAL WINDING COMPANY — BOSTON



Winding machines for single and ply yarns, cotton, woolen, worsted and silk. Write for circular describing the NEW WIND DOUBLER, also the No. 80 for winding SUPERCONES.

CHARLOTTE OFFICE  
 804 Realty Building  
 FREDERICK JACKSON

ATLANTA OFFICE  
 1121 Candler Bldg.  
 WINTHROP S. WARREN

—Agents—

## OUR SPINNING RINGS—SINGLE OR DOUBLE FLANGE

Start Easiest, Run Smoothest, Wear Longest!

PAWTUCKET SPINNING RING CO.

CENTRAL FALLS, R. I.



Standard  
 Size of the South

Mildew, bleach and dye troubles are unknown to mills using Sizol

THE SEYDEL CHEMICAL COMPANY

NEW YORK CITY, N. Y.

Jersey City, N. J.

Nitro, W. Va.

Sizings

Softeners

Finishings

S. C. Thomas and C. C. Clark, Spartanburg, S. C.



The humid atmosphere in textile mills causes employees to consume large quantities of water. These employees require cool water supplied in a sanitary manner—the "old tin cup" won't do.

A PURO Cooler with its Sanitary Fountain is the logical dispenser of Pure Cool Drinking water.

We are holding a copy of catalog for you—may we send it?

Made only by the

PURO SANITARY DRINKING  
 FOUNTAIN CO.,

Haydenville, Mass.

Southern Agent  
 E. S. PLAYER  
 Greenville, S. C.



## Jacques Wolf & Company

MANUFACTURING CHEMISTS AND IMPORTERS  
PASSAIC, N. J.

*Finishing and Sizing Preparations for Cotton*

### BLEACHING OIL

Kier Roll Assistant

### ANTISTAIN

### CREAM SOFTENER

### ALIZARINE ASSISTANTS

### HYDROSULPHITE

For Stripping and Discharge Printing

### MONOPOLE OIL

Reg. Trade Mark No. 70991

### LEVULINE

To soften Sulphur and Developed Black

### SCROOPING COMPOUND

For Silk and Cotton Hosiery



## Ring Traveler Specialists

### U. S. Ring Traveler Co.

159 Aborn Street, PROVIDENCE, R. I.  
AMOS M. BOWEN, Treasurer

Wm. P. VAUGHAN, Southern Representative

P. O. Box 792

GREENVILLE, S. C.

U. S. Ring Travelers are **uniformly tempered** which insures even-running spinning. They are also correct as to **weight** and **circles**. Quality guaranteed.

## DRAKE CORPORATION

*"Warp Dressing Service  
Improves Weaving"*

NORFOLK - - VIRGINIA

## HYDROSULPHITES

### Bisulphite of Soda-Powder

Send Us a Trial Order

Sample Card and Lowest Quotations on Request

### H.A. METZ & CO. Inc.

One-Twenty-Two Hudson Street, New York City.  
Boston Philadelphia Providence Chicago  
Charlotte San Francisco

## Want Department

### Position Wanted.

Position as manager or superintendent of hosiery mill; 20 years' experience on all grades of hosiery. Can give best of references. Knitter, care Textile Bulletin.

Wanted.—To buy a Barber-Colman tying-in machine suitable for tying in warp up to forty-four inch looms. Address, No. 10, care Textile Bulletin, Charlotte, N. C.

### Position Wanted.

Position as manager or superintendent of yarn or weave mill. 25 years experience in all departments of cotton mill. Best of reference from past employers. Cotton Mill, Care Textile Bulletin, Charlotte, N. C.

Tractors.—We are offering a limited number of Cletrac Model W "Tank Type" tractors at reduced prices. These tractors are absolutely new and have not been used. Speer & Watkins, Anderson, S. C.

### Salesman Wanted.

Mill man preferred, one who is acquainted with weaving mills and who has had weaving experience. Address F and B. Suter Co., Pawtucket, R. I.

### For Sale.

64 C and K Looms with 20 harness bobbies, to weave 40" goods, 46" reed space, double arch, in good condition. Mill has been weaving lappets on them.

57 C and K Gingham Looms, to weave stripped and checked gingham up to 36"

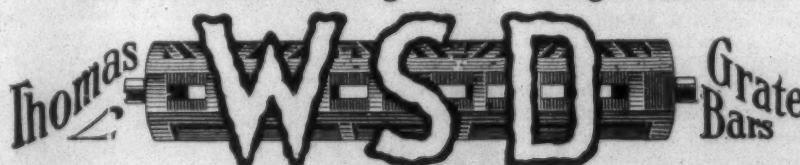
42 are 4x1 box and 15 are 6x1 box—all 36" reed space to weave up to 32" wide.

A. B. CARTER,  
Gastonia, N. C.

### Hotel Wanted.

Lady of executive ability wants furnished hotel or very large boarding house. Will rent or work on salary. Address P. O. Box 213, New Bern, N. C.

Fire Without Having A Cleaning Period On



For Use with Either Natural, Induced or Forced Draft  
FOR DETAILED INFORMATION WRITE

THOMAS GRATE BAR COMPANY  
BIRMINGHAM, ALA.

### REMOVOIL

Why not eliminate all of your oil spots that show up in your cloth room. Removoil is doing it in a large number of mills. Try a ten-gallon can and be convinced.

### MASURY-YOUNG CO.

Established 1857

BOSTON, MASS.

Seamless—and as smooth as glass

INSIDE AND OUT

Strong Turned Over Top—  
Clear Entrance and Exit

In addition to the above advantage there is no top sway in this or any other Laminar Roving Can. And the aliver always coils up evenly inside. We think little need be said about the quality of this Can—the fact that it's a Laminar guarantees that it will be on the job years from now. Make sure also that when you buy fibre trucks, boxes, baskets and cars that your order calls for Laminar Receptacles. We'll send a book on receptacles. Tell us where.

AMERICAN VULCANIZED FIBRE COMPANY

Sole proprietors and manufacturers  
New England Dept.: 12 Pearl St., Boston

C. C. Bell, Vice-Pres.

Resident Manager

Home Office — Wilmington,  
Delaware.

Factories at Wilmington  
and Newark, Del.



**LAMINAR**  
MILL RECEPTACLES





## EMPLOYMENT BUREAU

The fee for joining our employment bureau for three months is \$2.00 which will also cover the cost of carrying a small advertisement for one month.

If the applicant is a subscriber to the Southern Textile Bulletin and his subscription is paid up to the date of his joining the employment bureau the above fee is only \$1.00.

During the three months' membership we send the applicant notices of all vacancies in the position which he desires.

We do not guarantee to place every man who joins our employment bureau, but we do give them the best service of any employment bureau connected with the Southern Textile Industry.

**WANT position as superintendent of weave mill, or would take place as carder and spinner in large mill. With present company five years, last three as superintendent. Ten years as overseer carding and spinning. Address No. 3492.**

**WANT position as superintendent. Now employed as overseer with one of the largest mills in the South. Have been with same company for six years. By experience and training am qualified to handle superintendent's position. Can give best of references. Address No. 3493.**

**WANT position as carder or spinner or both. Now employed as overseer, but wish better place and can come on short notice. Excellent references as to experience, character and ability. Address No. 3494.**

**WANT position as master mechanic. Now employed. Long experience as master mechanic and engineer in good mills. Can handle either steam or electric drive. Good machine shop and repair man. Address No. 3495.**

**WANT position as overseer of carding. Competent, reliable man whose experience and training is reflected in ability to get results. Now employed. Good references. Address No. 3496.**

**WANT position as overseer of weaving. Experienced on both plain and fancy goods and all makes of looms used in South. Steady worker, good habits, good manager of help. Address No. 3497.**

**WANT position as master mechanic. Have had nine years experience as master mechanic, 20 years with steam and electric drive and mill machine work. Good references as to character and ability. Address No. 3497.**

**WANT position as overseer of spinning, or would take carding. Long experience in both departments and can give satisfactory references. Address No. 3498.**

**WANT position as overseer of cloth room. Have had over 30 years experience in some of the best mills in the South, and have handled practically every kind of goods made in Southern mills. Wish to correspond with mill needing thoroughly reliable man who can handle cloth room in efficient manner. References. Address No. 3500.**

**WANT position as master mechanic. Experienced, reliable man now employed, but wish a larger place. References to show long record of satisfactory service with a number of first class mills. Address No. 3501.**

**WANT position as engineer and machinist. Experienced on both electric and steam drive and am competent to handle machine shop and general repair work. Good references. Address No. 3502.**

**WANT position as superintendent of large yarn or cloth mill or manager of smaller mill. High class, efficient man with long experience as superintendent and manager and can get results. Excellent references. Address No. 3503.**

**WANT position as overseer of carding, or would take place as second hand in large room. Practical, experienced man of character and ability, good manager of help. Fine references. Address No. 3504.**

**WANT position as superintendent, or carder and spinner. Many years experience in all these positions in some of the best mills in the South. Excellent references. Address No. 3505.**

**WANT position as overseer of carding in small or medium sized mill, or second hand in large mill. Age 26; married. I. C. S. graduate; good references as to character and ability. Address No. 3506.**

**WANT position as overseer of weaving. Now employed in large mill and giving**

satisfaction, but have good reasons for wishing to change. Experience includes work on practically all goods made in the South. Good references. Address No. 3507.

**WANT position as overseer of carding or spinning or both, or superintendent. Now employed as night spinning in large mill and giving entire satisfaction, but wish day work. References from past and present employers. Address No. 3509.**

**WANT position as master mechanic and engineer. Have had 12 years experience in steam and electric driven plant and can handle either in competent manner. Good references. Address No. 3510.**

**WANT position as overseer of weaving in mill on plain or fancy goods. Now employed, but can change on short notice. Experience and training cover a long period of years in a number of good mills. Good references. Address No. 3511.**

**WANT position as overseer of weaving. Practical man of long experience who is fitted to handle your weave room on efficient and economical basis. Good references. Address No. 3512.**

**WANT position as mill bookkeeper or pay roll clerk, general office work or typist; 10 years' experience. Best references. No. 3513.**

**WANT Position as general office man in mill. Two years as manager, doing buying and selling. Would accept pay roll work if advancement is offered. Married. Reference. Address No. 3514.**

**WANT position as master mechanic in medium-sized electric driven mill or power house operator, or place in large shop where chances are good for promotion. Married, settled, good worker. Address No. 3515.**

**WANT position as carder, spinner or carding and spinning. Long experience in number of good mills. Good record. Best of references. Address No. 3517.**

**WANT position as superintendent. Long record of satisfactory service. Now employed but wish larger place. Excellent references. Address No. 3518.**

**WANT position as overseer spinning; 10 years' experience; 35 years old. Now employed, but want better paying job. Fine references. Address No. 3519.**

**WANT position as cloth room overseer or second hand in large room. Long experience on white goods. Strictly sober. Now employed at one of the best mills in South. References. Address No. 3520.**

**YOUNG LADY wants position as stenographer in mill work. Long experience in mill office; competent, accurate and reliable. Address No. 3521.**

**WANT position as overseer weaving. Experience and training qualifies me to handle job in first class manner. Excellent references. Address No. 3522.**

**WANT position as overseer carding. Experienced on various classes of work and have excellent record. Would like interview with mill needing high-class man. Address No. 3523.**

**WANT position as overseer of carding or overseer carding and spinning. Thoroughly familiar with both carding and spinning and can get good results. Address No. 3524.**

**WANT position as overseer weaving in medium sized mill, or second hand in large room. Prefer plain weaving job. Sober, hard worker and good manager of help. Address No. 3525.**

**WANT position as overseer carding or would take spinning; 16 years experience as overseer. Prefer carding job. Am married, settled and references show a long record of excellent service. Address No. 3527.**

**WANT position as overseer spinning. Experienced, practical man who has been overseer over long period of years. Can get quality production at low cost. References. Address No. 3429.**

**WANT position as overseer spinning, spooling and warping, or would take large spinning room; 18 years' experience; first class man in every respect. Address No. 3526.**

**WANT position as overseer weaving. Have handled large variety of goods and can produce quantity and quality. Best references. Address No. 3526.**

**WANT position as superintendent of yarn or weave mill. Now employed as superintendent of well known yarn mill, but have good reasons for change. Excellent references. Address No. 3530.**

**WANT position as machinist. Have had long experience in mill shops and am sober and reliable mechanic. Excellent references. Address No. 3521.**

**WANT position as overseer large card room, or spinning hoom, or both. Can give good references showing long practical experience and excellent character. Address No. 3532.**

**WANT position as finisher. My experience in finishing plants enables me to handle your work in thoroughly competent manner. References gladly furnished. Address No. 3533.**

**WANT position as overseer of weaving. Long experience in number of large weave mill handling many different cloths. Now employed. Address No. 3534.**

**WANT position as overseer spinning, winding or finishing. Now employed but wish larger place. Experienced, reliable man of good habits. Best of references. Address No. 3535.**

**WANT position as master mechanic. Experienced in both steam and electric work. Best of references. Address No. 3536.**

**WANT position as superintendent, or would take place as carder or spinner. Can furnish good references from number of mills showing my long record of satisfactory service. Now employed. Address No. 3537.**

**WANT position as superintendent of yarn mill, or carder and spinner. Practical man whose knowledge of carding and spinning is such as to produce excellent results. References. Address No. 3538.**

**WANT position as superintendent. Excellent reason for changing. Would like to submit my references to mill needing high class man. Address No. 3539.**

**WANT position as superintendent. Now have superintendent's place in medium sized plant, but wish larger job. References as to character and ability. Address No. 3540.**

**WANT position as master mechanic. Now employed in large mill shop and have always given satisfaction over long period of years. References to show character, qualifications and training. Address No. 3541.**

**WANT position as overseer weaving. Now employed as weaver in good mill, but wish to locate in Carolinas or Georgia. High class man who can produce results. Address No. 3542.**

**WANT position as assistant superintendent or weaver. Now getting \$3,000 salary, but will take place at \$150 a month in more healthy location. Experienced in large mill; both white and colored goods. Married. Good references. Address No. 3543.**

**WANT position as cloth room overseer second hand in large room. Now employed as overseer in denim plant. Excellent references. Address No. 3544.**

**COTTON CLASSER and stapler desires position, preferably with mill. Experienced and can furnish references. Address No. 3545.**

**WANT position as superintendent or weaver. Prefer mill on colored goods. Now employed. Best of references. Address No. 3546.**

**WANT position as overseer carding, or carding and spinning. Practical man of long experience who can handle your carding or spinning on economical and paying basis. Address No. 3548.**

**WANT position as carder. Age 40; 18 years' experience in number of good mills. Gilt edge references. Address No. 3548.**

**WANT position as overseer weaving, beaming, slashing or quilling. Have handled all of above departments and can give good references. Now overseer weaving in mill on checks and chambrays in mill of 800 looms. Address No. 3549.**

**WANT position as superintendent, or carder and spinner. Now employed, but wish larger place. Good references. Address No. 3550.**

**WANT position as overseer of cloth. High class man of good habits who thoroughly understands the efficient handling of cloth room. Address No. 3551.**

**WANT position as carder or spinner or both. Age 43; 18 years' as overseer; good record as manager of help. Now employed as carder, but wishes larger place. References. Address No. 3553.**

**WANT position as overseer weaving. Settled man of good habits, long experience on both plain and fancy weaves. References. Address No. 3558.**

**WANT position as superintendent. Now employed as superintendent. Experience for more than 20 years as superintendent and overseer. Excellent references. Address No. 3555.**

**WANT position as cloth room overseer. Competent, reliable man of long experience. Can furnish excellent references. Address No. 3556.**

**WANT position as superintendent, manager or office manager in large mill. Can manage plant on efficient basis and would like opportunity to show qualifications to mill needing A1 man. Address No. 3557.**

**WANT position as carder or spinner or superintendent. Thoroughly qualified in both departments and have had long experience as overseer in a number of**

**WANT position as superintendent or weaver. Now employed but have good reasons for changing. Best of references large mills. Address No. 3558.**

**WANT position as superintendent. Have successfully run some of the best mills in the South and can furnish references showing long period of satisfactory and productive service. Address No. 3559.**

**WANT position as superintendent, carder or spinner. Experienced and capable man of long experience. Settled habits. Address No. 3560.**

**WANT position as superintendent, carder and spinner, or both. Experienced man of practical ideas. Excellent references. Address No. 3561.**

**WANT position as superintendent. Have long record of good service and have always given satisfaction. Now employed. Excellent references. Address No. 3562.**

**WANT position as superintendent or weaver. Weaving experience covers period of over 20 years on wide variety of fabrics. Sober, reliable and good manager of help. Good references. Address No. 3563.**

**WANT position as carder. Long experience and have special knowledge of combed work. Excellent references. Address No. 3566.**

**WANT position as overseer weaving. Can handle plain or fancy work. Draper job preferred. Would accept place as designer in large mill. Thoroughly capable weaver in every respect. References. Address No. 3567.**

**WANT position as overseer carding or spinning, or both. Have worked in some of best mills in South and always gotten good results. Good references. Address No. 3565.**

**WANT position as overseer carding. Practical man who can handle carding in efficient manner. Long experience. Specially qualified for combed work. Address No. 3568.**

**WANT position as superintendent. By experience and training am especially fitted to handle combed yarn mill. Will gladly submit references to mill desiring high class, experienced superintendent. Address No. 3569.**

**WANT position as overseer carding or superintendent in medium sized mill. Now employed as superintendent, but do not like location of mill. Long experience and thoroughly understand card loom details. Address No. 3570.**

**WANT position as cotton classer or buyer for mill in Carolinas or Georgia. Several years' experience in buying and classing long and short cotton, domestic and export. A-1 references. Address No. 3571.**

**WANT position as overseer of carding; 18 years' experience as carder and am competent and reliable in every respect. Good references. Address No. 3572.**

**WANT position as superintendent or overseer of carding and spinning. Now employed in medium sized mill, but am capable of handling job. References showing character and ability gladly furnished. Address No. 3573.**

**WANT position as superintendent of yarn mill. Now employed, but wish better paying place. Many years as superintendent and overseer, and am familiar with all departments of mills. Address No. 3574.**

**WANT position as superintendent, or would accept place as carder or spinner. Many years as superintendent and overseer and can successfully operate any size mill. Good reference. Address No. 3576.**



# CLASSIFIED LIST OF ADVERTISERS

## ACID RESISTING PAINT—

L. Sonneborn Sons, Inc.

## AIR CONDITIONERS—

The Bahnsen Co.

Parks-Cramer Co.

## ALBONE—

Reesler & Haaslaacher.

## AIR WASHERS AND COOLERS—

See Humidifiers.

## ARCHITECTS & MILL ENGINEERS—

Draper, E. S.

Sirre & Co., J. E.

## ASH HANDLING EQUIPMENT—

Link-Belt Company.

## AUTOMATIC FEEDS FOR COTTON—

Saco-Lowell Shops.

Whitin Machine Works.

## AUTOMATIC REGULATORS—

Powers Regulator Co.

## AUTOMATIC SCALES—

Link-Belt Company.

## BALL BEARING—

Fafnir Bearing Co.

Greenville Textile Supply Co.

S. K. F. Industries, Inc.

## BALING PRESSES—

See Presses, Baling.

## JALLERS—

Saco-Lowell Shops.

## BANDS AND TAPE—

American Textile Banding Co.

## BARRELS—

Rogers Fibre Co.

## BASKETS—

Rogers Fibre Co.

## BEAMING AND WARPING MACHINERY—

Cocker Machine Co.

Draper Corporation.

Saco-Lowell Shops.

Morse Chain Co.

## BEARINGS, SHAFT—

Fafnir Bearing Co.

Wood's, T. B., Sons Co.

## BELT CONVEYORS—

Link-Belt Company.

## BELT TIGHTENERS—

Link-Belt Co.

T. B. Wood's Sons Company.

## BELT CEMENT AND PRESERVATIVES—

McLeod Leather & Belting Co.

## BLEACHING MATERIALS—

Arabol Mfg. Co.

Atlantic Dyestuff Co.

Bosson & Lane.

Kilpstein & Co., A.

L. Sonneborn Sons, Inc.

National Aniline & Chemical Co.

Reesler & Haaslaacher Chem. Co.

Seydel Mfg. Co., The.

Stein, Hall & Co.

United Chemical Products Co.

Wolf, Jacques & Co.

## BEARINGS, ROLLER—

See Roller Bearings.

## BELTING—

See also Mill Supplies.

Baltimore Belting Co.

Charlotte Leather Belting Co.

## BELTING, LINK—

Link-Belt Company.

Courtney Co., Dana S.

Draper Corporation.

Macrodi Fibre Co.

Morse Chain Co.

## BENCH DRAWERS, STEEL—

Lupton's, David, Sons Co.

## BENCH LEGS, PRESSED STEEL—

Lupton's, David, Sons Co.

## BOBBING—

Lowell Shuttle Co.

Jordan Mfg. Co.

U. S. Bobbin & Shuttle Co.

Courtney, The Dana S., Co.

Lestershire Spool & Mfg. Co.

## BOILER GRAPHITE—

Detroit Graphite Company

## BOXES—

Hutton & Bourbonnais Co.

Wilts Veneer Co.

Rogers Fibre Co.

## BOX SHOOKS—

Hutton & Bourbonnais Co.

Wilts Veneer Co.

## BRUSHES—

Atlanta Brush Co.

## BURLAP—

Greenville Textile Supply Co.

## BLOWERS AND BLOWER SYSTEMS—

Carrier Engineering Corp.

Parks-Cramer Co.

Perkins & Sons, B. F.

## BOBBIN STRIPPER—

Terrell Machine Co.

## CALENDER ROLLS—

Perkins & Sons, B. F.

## CARD CLOTHING—

Ashworth Bros.

## CARD GRINDING MACHINERY—

Droufield Bros.

Roy & Son Co., B. S.

Saco-Lowell Shops.

Whitin Machine Works.

## CARDS—

Saco-Lowell Shops.

Whitin Machine Works.

## CARRIER APRONS—

Link-Belt Company.

## CHAIN BELTS AND DRIVES—

Link-Belt Co.

Morse Chain Co.

## CLOTH TESTERS—

Perkins & Co., B. F.

## CLUTCHES, FRICTION—

Wood's, T. B., Sons Co.

## COAL HANDLING MACHINERY—

Link-Belt Co.

## COMMISSION MERCHANTS—

Catlin & Co.

Ridley, Watts & Co.

Whitman & Son, Clarence.

Barnard-Lynah, Inc.

Paulson, Linkroum & Co.

## COMPRESSORS (AIR)—

Allis-Chalmers Mfg. Co.

## CONDENSERS—

Allis-Chalmers Mfg. Co.

## CONDITIONING MACHINES—

American Moistening Co.

## CONDUIT FITTINGS—

Chicago Fuse Mfg. Co.

## CONTRACTORS—

See Mill Builders.

## CONVEYING SYSTEMS—

Link-Belt Company.

## CONCRETE FLOOR HARDENER—

Detroit Graphite Company

## CONVEYOR PIPE—

J. N. McCausland & Co.

## COOLERS (AIR)—

See Humidifying Apparatus.

## COTTON—

F. J. Domo & Co.

Oliver & Houghton.

Jennings, A. T. & Co.

Palmer, Raymond & Co.

McGuigan, E. L. & Co.

Martin & Co.

Eblin & Co.

Patton, Edw. L. & Co.

Winfield Bros.

## COTTON MACHINERY—

Ashworth Bros.

Atherton Pin Grid Bar Co.

Barber-Colman Co.

Dixon Lubricating Saddle Co.

Draper Corporation.

East Jersey Pipe Co.

Metallic Drawing Roll Co.

National Ring Traveler Co.

Roy & Son Co., B. S.

Saco-Lowell Shops.

Stafford Co., The

Universal Winding Co.

Whitin Machine Works.

Whitinsville Spinning Ring Co.

Tolhurst Machine Works

Terrell Machine Co.

## COTTON OPENERS AND LAPPERS—

Saco-Lowell Shops.

Whitin Machine Works.

## COTTON SOFTENERS—

Arabol Mfg. Co.

Bosson & Lane.

Kilpstein & Co., A.

L. Sonneborn Sons, Inc.

Seydel Mfg. Co., The.

Wolf, Jacques & Co.

## COTTON WASTE MACHINERY—

Saco-Lowell Shops.

Whitin Machine Works.

## COUPLINGS, SHAFT—

Wood's, T. B., Sons Co.

## CRANES—

North State Creosoting Co.

Link-Belt Company.

## DESKS, STEEL FACTORY—

Lupton's, David, Sons Co.

## DISINFECTANTS—

Carolina Specialty Co.

Masury Young Co.

Seydel Mfg. Co., The.

## DOBBY CHAIN—

Rice Dobby Chain Co.

## DOFFING BOXES—

Rogers Fibre Co.

## DOUBLERS—

Saco-Lowell Shops.

Universal Winding Co.

## DOORS, STEEL—

Lupton's, David, Sons Co.

## DRAWING ROLLS—

Metallic Drawing Roll Company.

## DRINKING FOUNTAINS—

Puro Sanitary Drinking Fountain Co.

## DRIVES, SILENT CHAIN—

Morse Chain Company.

## DRYERS, CENTRIFUGAL—

East Jersey Pipe Co.

Tolhurst Machine Works.

## DYEING, DRYING, BLEACHING AND FINISHING MACHINERY—

East Jersey Pipe Co.

Franklin Process Co.

Klauder-Weldon Dye Machinery Co.

Perkins, B. F., & Sons, Inc.

Roy & Son Co., B. S.

Tolhurst Machine Works.

## DYESTUFFS AND CHEMICALS—

Atlantic Dyestuff Co.

Bosson & Lane.

E. I. du Pont de Nemours & Co., Inc.

Kilpstein & Co., A.

Metz & Co., H. A.

National Aniline & Chemical Co.

Newport Chemical Works.

Reesler & Haaslaacher Chemical Co.

Seydel Mfg. Co.

Stein, Hall & Co.

United Chemical Products Co.

Wolf, Jacques & Co.

## ELECTRICAL CONTRACTORS—

Hunting & Querry.

Bouligny, R. H., Inc.

## ELECTRIC FANS—

Allis-Chalmers Mfg. Co.

Perkins & Son, Inc., B. F.

## ELECTRIC HOISTS—

Allis-Chalmers Mfg. Co.

Link-Belt Company.

## ELECTRIC LIGHTING—

Huntington & Querry.

Allis-Chalmers Mfg. Co.

Bouligny, R. H., Inc.

Standard Electric Co.

## ELECTRIC MOTORS—

Allis-Chalmers Mfg. Co.

## ELECTRIC SUPPLIES—

Chicago Fuse Mfg. Co.

Greenville Textile Supply Co.

## ELEVATORS—

Link-Belt Company.

## ELEVATOR, REVOLVING PORTABLE—

See Portable Elevators.

## ENGINEERS—

Mess & Mess.

## ENGINEERS, MILL—

See Architects and Mill Engineers.

## ENGINEERS (VENTILATING)—

Parks-Cramer Co.

## ENGINES (STEAM, OIL, GAS, PUMP—

ING)—

Allis-Chalmers Mfg. Co.

Sydney Pump & Well Co.

## EXHAUST FANS—



# CLASSIFIED LIST OF ADVERTISERS

## PAINTS—

Carolina Specialty Co.  
E. I. du Pont de Nemours & Co., Inc.  
L. Sonneborn Sons, Inc.  
Tripod Paint Co.

## PAPER AND PAPER BOARDS—

Diamond State Fibre Co.  
Rogers Fibre Co.

## PARTITIONS, STEEL—

Lupton's, David, Sons Co.

## PATENTS—

Siggers & Siggers

## PERBORATE OF SODA—

Roessler & Hasslacher Chemical Co.

## PICKERS, LEATHER—

Garland Mfg. Co.  
McLeod Leather & Belting Co.

## PICKER STICKS—

Garland Mfg. Co.  
Ivey Mfg. Co.

## PIPE AND FITTINGS—

Grinnell Co.

## PORTABLE ELEVATORS—

Link-Belt Company.

## POWER TRANSMISSION

## MACHINERY—

Allis-Chalmers Mfg. Co.  
Fafnir Bearing Co.  
Link-Belt Company.  
Morse Chain Company.  
Woods, T. B., Sons Co.

## PREPARATORY MACHINERY

## (COTTON)—

Saco-Lowell Shops.  
Whitin Machine Works.

## PRESSES—

American Laundry Machinery Co.  
Collins Bros.  
Saco-Lowell Shops.

## PEROXIDE OF SODIUM—

Roessler & Hasslacher.

## PICKERS AND LAPPERS—

Whitin Machine Works.

## PULLEYS—

—See Transmission Machinery.

## PULLEYS, CAST IRON—

Woods, T. B., Sons Co.

## PUMPS—

(Boiler Feed; also Centrifugal.)

Allis-Chalmers Mfg. Co.  
De Laval Steam Turbine Co.  
Sydnor Pump & Well Co.

## QUILLERS—

Universal Winding Co.  
Whitin Machine Works.

## QUILL CLEANERS—

Terrill Machine Co.

## REGULATORS—

Powers Regulator Co.

## RING TRAVELERS—

National Ring Traveler Co.  
U. S. Ring Traveler Co.

## RING SPINNING FRAMES—

Whitin Machine Works.  
Saco-Lowell Shops.

## ROLLS—

The Whitin Machine Works.  
Metallic Drawing Roll Co.  
Saco-Lowell Shops.  
Southern Spindle & Flyer Co.

## ROOFING—

L. Sonneborn Sons, Inc.  
David Lupton's Sons, Inc.

## ROPE TRANSMISSION—

Link-Belt Company.  
Woods, T. B., Sons Co.

## ROVING CANS AND BOXES—

American Vulcanized Fibre Co.  
Rogers Fibre Co.

## ROVING MACHINERY—

Whitin Machine Works.  
Saco-Lowell Shops.

## SADDLES—

Dixon Lubricating Saddle Co.

## SANITARY EQUIPMENT—

Puro Sanitary Drinking Fountain Co.  
Vogel Co., Joseph A.

## SANITARY FOUNTAINS—

—See Drinking Fountains.

## SASH, STEEL—

Lupton's, David, Sons Co.

## SCALLOP MACHINES—

Marrow Machine Co.

## SCOURING POWDERS—

Champion Chemical Co.  
Midland Chemical Laboratories.

## SEWING MACHINES—

Marrow Machine Co.

## SHAFTING, HANGERS, ETC.—

—See Power Transmission Machinery.

## SHELL STITCH MACHINES—

Marrow Machine Co.

## SHAFTING—

Fafnir Bearing Co.  
Woods, T. B., Sons Co.

## SHEET METAL WORK—

J. N. McCausland & Co.

## SHELVING, STEEL—

Lupton's, David, Sons Co.

## SHUTTLES—

Lestershire Spool & Mfg. Co.  
Lowell Shuttle Co.  
Draper Corporation.  
U. S. Bobbin & Shuttle Co.

## SIZING STARCHES, GUMS—

Allen, Charles R.  
Atlantic Dyestuff Co.  
Arabol Mfg. Co.  
Bosson & Lane.  
A. E. Staley Mfg. Co.

## Corn Products Refining Co.

Drake Corporation.  
L. Sonneborn Sons, Inc.  
United Chemical Products Co.  
John P. Marston.  
H. A. Metz & Co., Inc.  
A. Klipstein & Co.  
Seydel Mfg. Co.  
Spartan Sizing Compound Co.  
Stein, Hall & Co.  
Jacques, Wolf & Co.  
Masury Young Co.

## SILENT CHAIN DRIVE—

Link-Belt Company.  
Morse Chain Company.

## SKEWERS—

U. S. Bobbin & Shuttle Co.  
Courtney, The Dana S., Co.  
Ivey Mfg. Co.  
Jordan Mfg. Co.

## SKYLIGHT, ROLLED STEEL—

Lupton's, David, Sons Co.

## SOFTENERS (COTTON)—

United Chemical Products Corp.  
Arabol Mfg. Co.  
Bosson & Lane.  
Jacques, Wolf & Co.  
Metz, H. A., & Co., Inc.  
Seydel Mfg. Co., The.

## SLASHERS AND EQUIPMENT—

Saco-Lowell Shops.

## SLASHER HOODS

R. O. Pickens Slasher Hood Co.  
McCausland, J. N. & Co.

## SOAPS—

Arabol Mfg. Co.  
Klipstein & Co., A.  
Seydel Mfg. Co., The.  
United Chemical Products Co.

## SOFTENERS—

—See Cotton Softeners.

## SOLOZONE—

Roessler & Hasslacher Chemical Co.

## SPINDLES—

Draper Corporation.  
Saco-Lowell Shops.  
Southern Spindle & Flyer Co.  
Whitin Machine Works.

## SPINNING FRAME SADDLES—

Dixon Lubricating Saddle Co.

## SPINNING RINGS—

Draper Corporation.  
Pawtucket Spinning Ring Co.  
Whitin Machine Works.  
Whitinsville Spinning Ring Co.

## SPINNING TAPE—

American Textile Banding Co.

## SPOOLS—

Lestershire Spool & Mfg. Co.  
U. S. Bobbin & Shuttle Co.  
Courtney, The Dana S., Co.  
Ivey Mfg. Co.  
Jordan Mfg. Co.

## SPROCKETS, SILENT CHAIN—

Link-Belt Company.  
Morse Chain Co.

## STARCH—

—See Sizing, Starch and Gum.

## STROOLERS—

Draper Corporation.  
Saco-Lowell Shops.  
Whitin Machine Works.

## STEAM TRAPS—

Powers Regulator Co.

## STEEL, STRUCTURAL—

Southern Engineering Co.

## STRAP LEATHER—

Chicago Fuse Mfg. Co.

## SWITCH BOXES—

Chicago Fuse Mfg. Co.

## TANKS—

G. Woolford Wood Tank Mfg. Co.  
Southern Engineering Co.

## TAPES, BRAIDS AND EDGINGS—

American Textile Banding Co.

## TEXTILE MACHINERY SPECIALTIES

Greenville Textile Supply Co.  
Cocker Machine and Foundry Co.

## THERMOMETERS—

Powers Regulator Co.

## TEMPLES—

Draper Corporation.

## TESTING APPARATUS (FABRICS)—

Perkins, B. F., & Son., Inc.

## TRANSFER STAMPS—

Kaunagraph Co.

## TRAPS—

—See Steam Traps.

## TOWERS—

Southern Engineering Co.

## TRANSMISSION MACHINERY—

Allis-Chalmers Mfg. Co.  
Odell Mill Supply Co.  
East Jersey Pipe Co.  
Tolhurst Machine Works.  
Woods, T. B., Sons Co.

## TOILETS—

Vogel Co., Jos. A.

## TOOL CABINETS AND STANDS,

## STEEL—

Lupton's, David, Sons Co.

## TOWERS—

G. Woolford Wood Tank Mfg. Co.  
Southern Engineering Co.

## TRANSMISSION SILENT CHAIN—

Link-Belt Co.  
Morse Chain Co.

## TRUCKS (MILL)—

American Vulcanized Fibre Co.  
Rogers Fibre Co.

## TRUCKS (AUTOMOBILE)—

Cyclone Motors Corporation

## TURBINES (STEAM)—

Allis-Chalmers Mfg. Co.

## TWISTING MACHINERY—

Draper Corporation.  
Saco-Lowell Shops.  
Whitin Machine Works.

## UNDERWEAR MACHINES—

Marrow Machine Co.

## VALVES—

Powers Regulator Co.

## VENTILATING APPARATUS—

American Moltening Co.  
Carrier Engineering Corporation.  
East Jersey Pipe Co.  
Parks-Cramer Co.  
Perkins, B. F., & Son, Inc.  
Tolhurst Machine Works.

## WARPERS—

Cocker Machine & Foundry Co.  
Draper Corporation.

## WARP DRESSING—

Draper Corporation.

## SEPARATORS—

Draper Corporation.

## WARP STOP MOTION—

Draper Corporation.

## WARP TYING MACHINERY—

Barber-Colman Co.

## WASHERS (FIBRE)—

American Vulcanized Fibre Co.

## WASTE BINS, STEEL

Lupton's, David, Sons Co.

## WASTE RECLAIMING MACHINERY

Saco Lowell Shops.  
Whitin Machine Works.

## WATER INTAKE SCREENS—

Link-Belt Company.

## WEIGHTING COMPOUNDS—

Arabol Mfg. Co.  
Atlantic Dyestuff Co.  
Bosson & Lane.  
Marston, John P.  
Klipstein, A., & Co.  
Metz, H. A.  
Newport Chemical Works.  
Seydel Mfg. Co., The.  
Jacques, Wolf & Co.

## WATER WHEELS—

Allis-Chalmers Mfg. Co.

## WELL DRILLING—

Sydnor Pump & Well Co.

## WINDERS—

Saco-Lowell Shops.  
Universal Winding Co.

## WINDOWS—

David Lupton's Sons, Inc.  
Southern Engineering Co.

## WINDOW FRAMES AND SASH,

## STEEL—

Lupton's, David, Sons Co.

## WHIZZERS—

East Jersey Pipe Co.  
Tolhurst Machine Works.

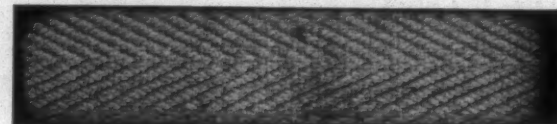
## YARNS—

Florsheim, H. A.  
Gray-Separk Mills.

## AMERICAN TEXTILE BANDING CO., Inc

Manufacturer

Spindle Tape  
AND  
Bandings



Bofield Ave. and Wister St., Germantown, Phila., Pa.

"The heresy of today is the orthodoxy of tomorrow."

## DYE YOUR YARNS IN THE WOUND FORM

on machines that pay for themselves in no time. Send us your job dyeing. Our prices are low, deliveries are prompt, and service the best. Franklin machines are used all over the world.

As job dyers we color over a million pounds of cotton and of worsted a year. Let us serve you. Our representative will be glad of an opportunity to see you and fully explain all details.

FRANKLIN PROCESS CO., PROVIDENCE, R. I.

## R. H. BOULIGNY, INC.

ENGINEERING CONTRACTORS

*Electrical Installations of All Kinds  
Transmission Lines*

105 Kinney Bldg CHARLOTTE North Carolina

## SANITATION AND HEALTH!

We Can Show You How!

Exclusive Agents in the Carolinas for  
Barrett's Standard Disinfectants  
Carolina Soluble Pineole Disinfectant

CAROLINA SPECIALTY COMPANY

Latta Arcade  
Charlotte, N. C.



# ALPHABETICAL LIST OF ADVERTISERS

- A**  
Allen, Chas. R., Charleston, S. C.  
Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
American Moistening Co., Boston, Mass.  
American Textile Banding Co., Philadelphia, Pa.  
American Vulcanized Fibre Co., Wilmington, Del.  
American Laundry Machinery Co., Cincinnati, Ohio.  
Arabol Mfg. Co., New York.  
Armature Winding Co., Charlotte, N. C.  
Ashworth Bros., Charlotte, N. C.  
Atherton Pin Grid Bar Co., Providence, R. I.  
Atlanta Brush Co., Atlanta, Ga.  
Atlantic Dyestuff Co., 88 Ames Bldg., Boston, Mass.
- B**  
Bahnsen Co., Winston-Salem, N. C.  
Barnard-Lynch, Inc., 321 Broadway, New York.  
Borne, Scrymser Co., 80 South St., New York.  
Boulligny, R. H., Inc., 105 Kinney Bldg., Charlotte, N. C.  
Barber Colman Co., Rockford, Ill.  
Baltimore Belting Company, Spartanburg, S. C.  
Bosson & Lane, Atlantic, Mass.  
Brinton, H. Co., Philadelphia, Pa.  
Budd Grate Co., 2011 E. Hagert St., Philadelphia, Pa.
- C**  
Carrier Engineering Corp., New York.  
Carolina Specialty Co., Charlotte, N. C.  
Carrin & Co., 346 Broadway, New York.  
Champion Chemical Co., Asheville, N. C.  
Charlotte Leather Belting Co., Charlotte, N. C.  
Chicago Fuse Mfg. Co., Chicago, Ill.  
Cocker Machine & Foundry Co., Gastonia, N. C.  
Collins Bros. Machine Co., Pawtucket, R. I.  
Corn Products Refining Co., New York.  
Courtney Co., Dana S., Chicopee, Mass.  
Cyclone Motors Corporation, Greenville, S. C.
- D**  
Dixon Lubricating Saddle Co., Bristol, R. I.  
Domo, F. J. & Co., 116 Broad St., New York.  
Draper, E. S., 506 Trust Bldg., Charlotte, N. C.  
Draper Corporation Hopedale, Mass.  
Dronfield's Sales Agency, 232 Sumner St., Boston, Mass.  
Drake Corporation, Norfolk, Va.  
E. I. du Pont de Nemours & Co., Wilmington, Del.
- E**  
Eblin & Co., 81 Broad St., New York.  
East Jersey Pipe Co., Patterson, N. J.  
Emmons Loom Harness Co., Lawrence, Mass.  
Eureka Iron Works, Inc., Lincolnton, N. C.
- F**  
Fafnir Bearing Co., New Britain, Conn.  
Florsheim, H. A., 225 Fifth Ave., New York.  
Franklin Process Co., Providence, R. I.  
Franklin Needle Co., Franklin, N. H.
- G**  
Woolford Wood Tink Mfg. Co., 710 Lincoln Bldg., Philadelphia, Pa.  
Gardner Mfg. Co., Saco, Me.  
Gray-Separk Mills, Gastonia, N. C.  
Greenville Textile Supply Co., Greenville, S. C.
- H**  
Grinnell Co., Providence, R. I.
- I**  
Hemphill Co., Pawtucket, R. I.  
Hepworth, John W. & Co., Lehigh Ave. and Mascher St., Philadelphia, Pa.  
Huntington & Guarvy, Greenville, S. C.  
Hutton & Bourbonnais Co., Hickory, N. C.
- J**  
Ivey Mfg. Co., Hickory, N. C.
- K**  
Jordan Mfg. Co., Monticello, Ga.  
Jennings, A. T. & Co., 88 Broad St., New York.
- L**  
Kaumagraph Co., 209 W. 38th St., New York.  
Keever Starch Co., Greenville, S. C.  
Klauder-Weldon Dyeing Machine Company, Jenkintown, Pa.  
Klipstein & Co., A., New York.
- M**  
Lowell Shuttle Co., Lowell, Mass.  
Link-Belt Company, Nicetown, Philadelphia, Pa.  
Lockwood, Greene & Co., Boston, Mass.  
Lupton, David, Sons, Inc., Philadelphia, Mass.
- N**  
Martin & Co., 116 Broad St., New York.  
McCausland, J. N. & Co., Charlotte, N. C.  
McGuigan, E. L. & Co., 24 Stone St., New York.  
Macrodi Fibre Co., Woonsocket, R. I.  
Marston Co., John P., 247 Atlantic Ave., Boston, Mass.  
Masury-Young Co., 196 Milk St., Boston, Mass.  
Mauney Steel Co., Philadelphia, Pa.  
McLeod Leather Belting Co., Greensboro, N. C.  
Marrow Machine Co., Hartford, Conn.  
Metallic Drawing Roll Co., Indian Orchard, Mass.  
Metz & Co., H. A., 122 Hudson St., New York.  
Midland Chemical Laboratories, Dubuque, Iowa.  
Morehead Mfg. Co., Detroit, Mich.  
Morse Chain Co., Ithaca, N. Y.
- O**  
North State Creosoting Co., North Charlotte, N. C.  
National Ring Traveler Co., Providence, R. I.  
National Aniline & Chemical Co., New York.  
N. Y. & N. J. Lubricant Co., 401 Broadway, New York.  
Newport Chemical Works, Passaic, N. J.
- P**  
Oliver & Houghton, 59 Pearl St., New York.  
Odell Mill Supply Co., Greensboro, N. C.
- Q**  
Patton, Edw. L. & Co., 81 Broad St., New York.  
Paulson, Linkroum & Co., 52 Leonard St., New York.  
Parks-Cramer Co., Fitchburg, Mass.  
Pawtucket Spinning Ring Co., Central Falls, R. I.  
Perkins, B. F., & Son., Holyoke, Mass.  
R. O. Pickens Slasher Hood Co., Spartanburg, S. C.  
Powers Regulator Co., The, Chicago, Ill.  
Puro-Sanitary Drinking Fountain Co., Haydenville, Mass.
- R**  
Rice, Dobby Chain Co., Millbury, Mass.  
Rogers Fibre Co., 121 Beach St., Boston, Mass.  
Roessler & Hasslacher Chemical Co., 709 Sixth Ave., New York.  
Roy & Sons Co., B. S., Worcester, Mass.
- S**  
Saco-Lowell Shops, Charlotte, N. C.  
S. K. F. Industries, Inc., New York.  
Seaboard Railway, Charlotte, N. C.  
Seydel Mfg. Co., Jersey City, N. J.  
Serrine, J. E., Greenville, S. C.  
Sonneborn & Sons, Inc., L., 262 Pearl St., New York.  
Southern Railway, Charlotte, N. C.  
Southern Spindle & Flyer Co., Charlotte, N. C.
- T**  
Southern Engineering Co., Charlotte, N. C.  
Spartan Sizing Compound Co., Spartanburg, S. C.  
Stafford Co., The, Readville, Mass.  
Staley Mfg. Co., A. E., Decatur, Ill.  
Standard Electric Co., Richmond, Va.  
Sydnor Pump & Well Co., Richmond, Va.  
Steel Heddle Mfg. Co., Philadelphia, Pa.  
Stein, Hall & Co., New York City.  
Swan & Finch Co., 522 Fifth Ave., New York.
- U**  
Terrell Machine Co., Charlotte, N. C.  
Textile Mill Supply Co., Charlotte, N. C.  
Thomas Grate Bar Co., Birmingham, Ala.  
Tolhurst Machine Works, Troy, N. Y.  
Torrington Co., Torrington, Conn.  
Triplex Paint Co., 67 N. Broad St., Atlanta, Ga.
- V**  
United Chemical Products Corp., York & U. S. Bobbin & Shuttle Co., 57 Eddy St., Providence, R. I.
- W**  
Colgate Sts., Jersey City, N. J.  
U. S. Ring Traveler Co., Providence, R. I.  
Universal Winding Co., Boston, Mass.
- X**  
Vogel Co., Jos. A., Wilmington, Del.
- Y**  
Wadsworth, Howland & Co., Boston.  
Ward-Davidson Co., 2525 N. Second St., Philadelphia, Pa.  
Wolf & Co., Jacques, Passaic, N. J.  
Wood's, T. B. Sons Co., Chambersburg, Pa.
- Z**  
Ridley Watts & Co., New York.  
Winfield Bros., 25 Broad St., New York.  
Whitin Machine Works, Whitinsville, Mass.  
Whitinsville Spinning Ring Co., Whitinsville, Mass.  
Whitman & San, Clarence, New York.  
Williams, Chauncey A., Manchester, N. H.  
Wilts Veneer Co., Richmond, Va.  
U. S. Bobbin & Shuttle Co., 57 Eddy St., Providence, R. I.

## Emmons Loom Harness Company

The Largest Manufacturers of Loom Harness and Reeds in America

### Loom Harness and Reeds

Slasher and Striking Combs Warps and Leice Reeds,  
Beamer and Dresser Hecks, Mending Eyes, Jacquard  
Heddles  
LAWRENCE, MASS.

B V C

TRADE MARK

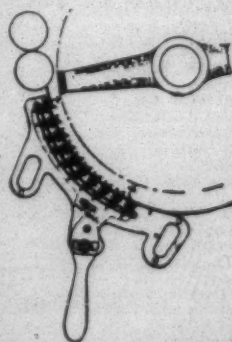
## BARBER - COLMAN COMPANY

BOSTON, MASS. GREENVILLE, S. C.

— MAIN OFFICE AND FACTORY: —

ROCKFORD, ILL. U. S. A.

HAND KNOTTERS WARP TYING MACHINES  
WARP DRAWING MACHINES



## Less Waste — Cleaner Yarns

COMPETITION IS NOW STRONG, and we cannot impress upon you too keenly to adopt our ADJUSTABLE PIN GRIDS, which will enable you to manufacture stronger and cleaner yarns, with smallest percentage of waste.

Send for large list that have already adopted them.

## Atherton Pin Grid Bar Company

L. D. ARMSTRONG, President  
GREENVILLE, S. C. PROVIDENCE, R. I.

# Ashworth Brothers, Inc.

## Tempered and Side Ground Card Clothing

TOPS RECLOTHED

LICKERINS REWOUND

COTTON MILL MACHINERY REPAIRED

12 to 18 West Fourth St., Charlotte, N. C.

240 River Street, Greenville, S. C.

127 Central Avenue, Atlanta, Ga.





Direct Sulphur Chrome **Dyes** Basic Vat Acid

Special Shades Matched

**VELVETEEN**

The Best Boil-off and Finish

Softeners Oils Finishes

**UNITED CHEMICAL PRODUCTS CORPORATION**

Importers, Exporters and Manufacturers

York & Colgate Sts. Jersey City, N. J.  
Southern Office, 307 Commercial National Bank Building Charlotte, N. C.

REPRESENTATIVES:

R. T. GRANT, Charlotte, N. C.

GEO. W. WATSON, Hazlehurst, Miss. LINDSAY PADGETT, Shelby, N. C.

## SACO-LOWELL SERVICE

BULLETIN NO. 4

Our Southern Repair Shop in Charlotte is under the direction of Mr. W. E. Harvell who has had twenty years experience with us in rewinding lickerins and reclothing top flats.

Before Mr. Harvell took charge of this shop he served several years as an erector of Saco-Lowell cards.

His men have been trained carefully and have also had years of experience.

Such experience does count and we want to give you the benefit of this experience by rewinding your lickerins and reclothing your flats.

We rewind all makes of lickerins and reclothe all makes of flats.

TRY THIS SERVICE

**SACO-LOWELL SHOPS**  
CHARLOTTE, N. C.

## Why a Morse Silent Chain

The Morse silent chain is used because of its superiority based on the design of the exclusive "rocker-joint" construction, the very highest grade of material and heat treatment, the extreme accuracy in manufacturing and the engineering assistance in the designing of textile drives by engineers trained in this particular line and backed by the long standing reputation of the MORSE CHAIN COMPANY

DO YOU KNOW about the MORSE Line Shaft Drive, The MORSE Spinning Frame Drive?

Write for Booklets

Send for INFORMATION Address NEAREST Office  
FACTS will Surprise You



**Morse Chain Co.**

Ithaca, N. Y.

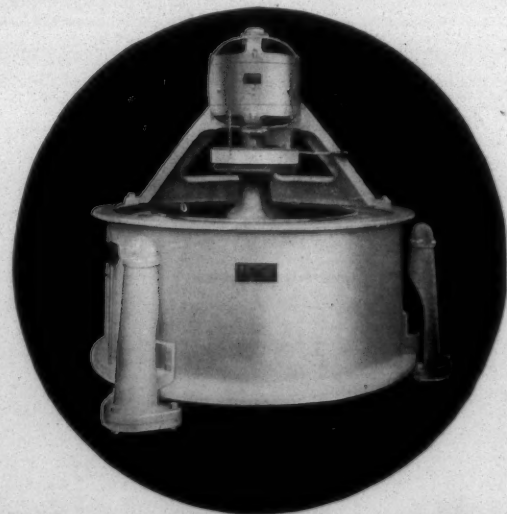


ASSISTANCE FREE  
CHARLOTTE, N. C., 404 Commercial Bank Building  
Cleveland Detroit Atlanta  
Chicago Philadelphia Montreal  
Baltimore Pittsburgh Minneapolis  
Boston San Francisco St. Louis  
New York

"MORSE" is the guarantee always behind our  
Efficiency, Durability and Service

Visit Booth 611—8th National Exposition of Chemical Exposition  
Grand central Palace, New York—Sept. 11th to 16th

## The Safety First Extractor



**"Hercules Electric"**

Sizes 6" to 72"

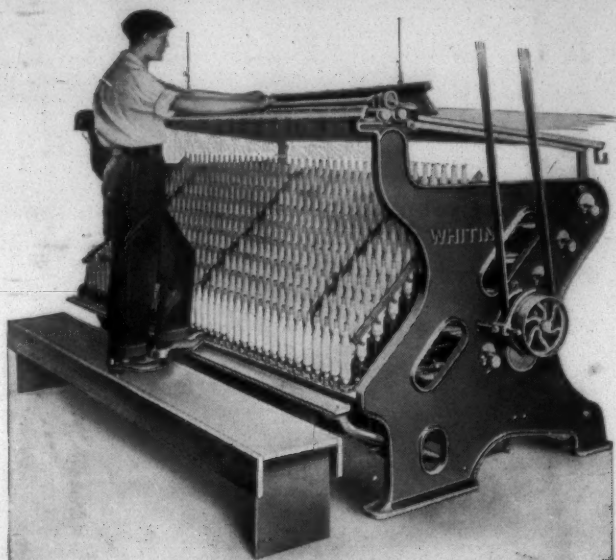
**E. S. PLAYER**  
Greenville, S. C.

**EAST JERSEY PIPE CO.**  
Paterson, N. J.



# WHITIN MACHINE WORKS

ESTABLISHED 1831  
TEXTILE MACHINERY



Manufacturers of  
**Long-Chain Quilling  
Machines**

FOR

**Colored, Bleached and  
Mercerized Yarns**

The use of this machine insures:

First Quality in Product  
Increased Profits  
Reduced Labor costs  
Savings in Power consumption.  
Economy in Floor Space

Full Particulars on Request

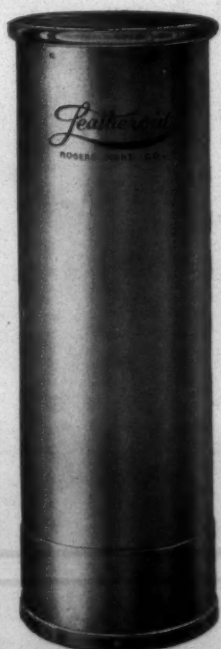
MAIN OFFICE AND WORKS  
**WHITINSVILLE, MASS., U.S.A.**  
SOUTHERN OFFICE CHARLOTTE N.C.

"We Know our Fibre Because we Make It"

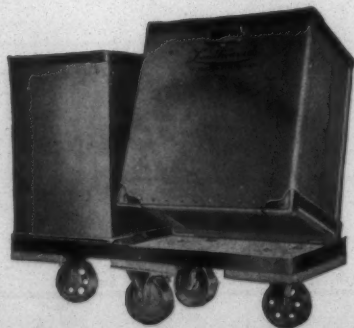
## Leatheroid

Catalog Sent On Request

THE FIBRE MILL EQUIPMENT THAT LASTS



Style No. 1 Seamless Roving Can. Patented rolled fibre top. Equipped with 6" seamless kicking band. Steel bottom reinforced with steel ring. Style No. 2 made with polished steel top.



Combination Doffing Car. Has Fixed and loose box Casters with self-oiling wheels.



Style No. 2 Warehouse Truck. Steel clad, lined with Leatheroid Fibre. Steel over wood top rim. Ribbed steel bottom band. Caster with self-oiling casters.



Style No. 3 Mill or Factory Box. Steel over wood top rim. Metal cut-in handle. Hardwood shoes with special steel protecting corners.

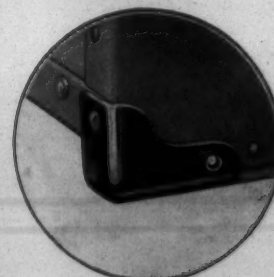


Illustration of special steel protecting corner angle.

### ROGERS FIBRE COMPANY

1024 Filbert Street, PHILADELPHIA, PA.

SOLD BY SOUTHERN SUPPLY HOUSES

121 Beach Street, Boston, Mass.

43 West 16th St., New York